GENERAL MECHANICAL SYMBOLS

- REVISION NUMBER - SHOWN ON PLANS
- POINT WHERE NEW CONNECTS TO EXISTING
- POINT WHERE EXISTING IS TO BE DEMOLISHED
- NUMBER OF DETAIL ON SHEET / NUMBER OF SHEET WHERE DETAIL APPEARS
- KEYNOTE
- CONTINUATION SYMBOL
- ROOM NAME AND NUMBER (Room 11)
- ITEM TO BE DEMOLISHED
- AREA NOT IN CONTRACT

- 2" — PIPE SIZE TAG (DIAMETER)
- ABOVE GROUND PIPING
- 2" VTR — PIPE SLOPE TAG
- BELOW GROUND PIPING
- INVERT: -105' - 1" — PIPE INVERT ELEVATION TAG
- (E) — EXISTING PIPE TAG
- PIPING BEING DEMOLISHED

ABBREVIATIONS

Ø	ROUND	LVR	LOUVER
ABV	ABOVE	LWT	LEAVING WATER TEMPERATURE
AC	AIR CONDITIONING	M/A	MIXED AIR
AD	AREA DRAIN	MAX	MAXIMUM
ADD	ADDENDUM	MBH	ONE THOUSAND BTU PER HOUR
AFF	ABOVE FINISHED FLOOR	MCF	ONE THOUSAND CUBIC FEET
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	MD	MOTORIZED DAMPER
ALT	ALTERNATE	MECH	MECHANICAL
AP	ACCESS PANEL	MFR	MANUFACTURER
ARCH	ARCHITECT/ARCHITECTURAL	MIN	MINIMUM
BFF	BELOW FINISHED FLOOR	MISC	MISCELLANEOUS
BLW	BELOW	MTR	MOTOR
BTU	BRITISH THERMAL UNITS	MU/A	MAKE-UP/AIR
BTUH	BRITISH THERMAL UNITS PER HOUR	NC	NOISE CRITERIA
CAP	CAPACITY	NC	NORMALLY CLOSED
CB	CATCH BASIN	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NO	NUMBER
CLG	CEILING	NO	NORMALLY OPEN
CO	CLEAN OUT	NTS	NOT TO SCALE
D	DEGREE	O	OXYGEN
DB	DRY BULB	O/A	OUTSIDE AIR
DCW	DOMESTIC COLD WATER	PD	PRESSURE DROP
DHW	DOMESTIC HOT WATER	PIV	POST INDICATOR VALVE
DIA	DIAMETER	PLBG	PLUMBING
DN	DOWN	PRESS	PRESSURE
DW	DISTILLED WATER	PRV	PRESSURE REDUCING VALVE
EA	EACH	PSI	POUNDS PER SQUARE INCH
EAT	ENTERING AIR TEMPERATURE	PSIG	POUNDS PER SQUARE INCH GAUGE
ELEC	ELECTRICAL	PWR	POWER
EQUIP	EQUIPMENT	R	DUCT RISER
EWC	ELECTRIC WATER COOLER	R/A	RETURN AIR
EWT	ENTERING WATER TEMPERATURE	RCP	RADIANT CEILING PANEL
E/A	EXHAUST AIR	RD	ROOF DRAIN
EXIST	EXISTING	RDO	ROOF DRAIN OVERFLOW
F	DEGREES FAHRENHEIT	REC	RECESSED
FCO	FLOOR CLEAN OUT	RED	REDUCER
FD	FLOOR DRAIN	RH	RELATIVE HUMIDITY
FD	FIRE DAMPER	RL/A	RELIEF AIR
FDV	FIRE DEPARTMENT VALVE	RM	ROOM
FL	FLOOR	RPM	REVOLUTIONS PER MINUTE
FO	FUEL OIL	RW	RAIN WATER
FOV	FUEL OIL VENT	SF	SQUARE FOOT
FOR	FUEL OIL RETURN	S/A	SUPPLY AIR
FOS	FUEL OIL SUPPLY	SAN	SANITARY
FPM	FEET PER MINUTE	SF	SQUARE FOOT
FS	FLOOR SINK	SD	SMOKE DAMPER
FT	FOOT/FEET	SM	SURFACE MOUNT
FTR	FIN TUBE RADIATION	SP	STANDPIPE
GAL	GALLON	SP	STATIC PRESSURE
GC	GENERAL CONTRACTOR	STM	STEAM
GPM	GALLONS PER MINUTE	T	THERMOSTAT
GW	GREASE WASTE	TD	TRENCH DRAIN
HB	HOSE BIB	TDR	TEMPERATURE DROP
HP	HORSE POWER	TEMP	TEMPERATURE
HTG	HEATING	TYP	TYPICAL
HTR	HEATER	UG	UNDERGROUND
HYD	HYDRANT	VAC	VACUUM
ID	INDIRECT	V	VENT
IN	INCH	VAV	VARIABLE AIR VOLUME
INV	INVERT	VENT	VENTILATION
LB	POUND	VTR	VENT THROUGH ROOF
LB/HR	POUNDS PER HOUR	W	WASTE
LAT	LEAVING AIR TEMPERATURE	WB	WET BULB
LP	LOW PRESSURE	WCO	WALL CLEAN OUT
LPG	LIQUEFIED PETROLEUM GAS	WH	WALL HYDRANT

HVAC SYMBOLS

DAMPER TAGS

- FIRE DAMPER — FD
- SMOKE DAMPER — SD
- FIRE/SMOKE DAMPER — FSD
- BD — BALANCING DAMPER (MANUAL)
- BDD — BACKDRAFT DAMPER
- ATC — AUTOMATIC TEMPERATURE CONTROL DAMPER (MOTORIZED)

HVAC SYMBOLS

- 18"x6" — SQUARE DUCT SIZE TAG (WIDTH x HEIGHT)
- 18"/6"FO — OVAL DUCT SIZE TAG (WIDTH / HEIGHT)
- 18"Ø — ROUND DUCT SIZE TAG (DIAMETER)
- E — EXISTING DUCT TAG
- DUCT BEING DEMOLISHED
- SUPPLY AIR - LOW PRESSURE
- SUPPLY AIR - MEDIUM PRESSURE
- CONDITIONED OUTSIDE AIR
- OUTSIDE AIR
- RETURN AIR
- TRANSFER AIR
- EXHAUST AIR
- RELIEF AIR
- GREASE EXHAUST AIR
- SMOKE EXHAUST AIR
- EXHAUST GAS FLUE
- COMBUSTION AIR
- DROP — RECTANGULAR SUPPLY/OUTSIDE AIR DUCT RISE
- DROP — ROUND SUPPLY/OUTSIDE AIR DUCT RISE
- DROP — RECTANGULAR RETURN/TRANSFER AIR DUCT RISE
- DROP — ROUND RETURN/TRANSFER AIR DUCT RISE
- DROP — RECTANGULAR EXHAUST/RELIEF AIR DUCT RISE
- DROP — ROUND EXHAUST/RELIEF AIR DUCT RISE

GRILLES, REGISTERS & DIFFUSERS SYMBOLS AND TAGS

CEILING — ID — CFM — NECK SIZE

- SQUARE SUPPLY DIFFUSER — CD1 /100 — 8"Ø
- RECTANGULAR SUPPLY DIFFUSER — CD1 /200 — 8"x6"
- ROUND SUPPLY DIFFUSER — CD5 /400 — 12"Ø
- SQUARE RETURN GRILLE — RG1 /500 — 12"x12"
- RECTANGULAR RETURN GRILLE — RG2 /180 — 8"Ø
- SQUARE EXHAUST GRILLE — EG2 /300 — 12"Ø
- RECTANGULAR EXHAUST GRILLE — EG1 /150 — 8"x6"

BLOW PATTERNS: 4-WAY, 3-WAY, 2-WAY, 2-WAY CORNER, 1-WAY

PLENUM RETURN GRILLE WITH SOUND BOOT — RG4 /800 — 24"x24"

LINEAR BAR GRILLES — LB1 /300 — 48"x6"

SIDEWALL

- SWS1 /200 — 14"x14"
- SWR1 /500 — 28"x12"
- SWE1 /400 — 16"x16" TYP. X 3 — TYPICAL COUNT

LINEAR SLOT — TYPE (SEE SCHEDULE) — CFM

LS1 /200 — 2'/1.00"/5'-0"/10"Ø — NUMBER OF SLOTS / SLOT WIDTH / ACTIVE SLOT LENGTH (PLENUM LENGTH) / NECK SIZE

5' - 0" — SECTION TOTAL TRACK LENGTH

MECHANICAL EQUIPMENT TAGS

HEATING COIL FLOW — VAV-XX — Htg: 3.7 GPM — VAV BOX

BOTTOM OF EQUIPMENT ELEVATION — VAV-XX — 10' - 0"

EXISTING EQUIPMENT TO REMAIN — (E)VAV-XX

EXISTING RELOCATED EQUIPMENT — (R)VAV-XX

EQUIPMENT BY OTHERS (REFER TO OTHER DISCIPLINE FOR ADDITIONAL INFORMATION) — VAV-XX

OPERATING WEIGHT NOT INCLUDING CURB — RTU-XX — 590 lb

NOMINAL COOLING CAPACITY — RTU-XX — 4.0 ton

FUEL INPUT GAS PIPE FLOW — RTU-XX — 115000 Btu/h — 115 CFH

ROOFTOP UNIT

DATA DEVICE TAGS

SYMBOL / EQUIPMENT ID

CARBON DIOXIDE SENSOR	CO2	TH	RTU-XX	TEMPERATURE & HUMIDITY SENSOR
CARBON MONOXIDE SENSOR	CO	TS	VAV-XX	TEMPERATURE SENSOR
NITROGEN DIOXIDE SENSOR	NO2	T		THERMOSTAT
HUMIDITY SENSOR	HS	MS		MANUAL SWITCH
HUMIDISTAT	H	S		SENSOR

PIPING SYMBOLS

CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CD	CONDENSATE DRAINAGE
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
GWR	GEOTHERMAL WATER RETURN
GWS	GEOTHERMAL WATER SUPPLY
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
NG	NATURAL GAS
PG	PROPANE GAS
REF-L	REFRIGERANT-LIQUID
REF-S	REFRIGERANT-SUCTION
REF-HG	REFRIGERANT-HOT GAS
STM	STEAM
CDR	CONDENSATE RETURN
CWV	COMBINATION WASTE & VENT
CA	COMPRESSED AIR
DCW	DOMESTIC COLD WATER
S-CW	SOFT COLD WATER
F-CW	FILTERED COLD WATER
NPCW	NON-POTABLE COLD WATER
RO	REVERSE OSMOSIS WATER
DHW	HOT WATER
DHW 140°	HOT WATER 140°
DHW-R	HOT WATER RECIRCULATION
DHW-R 140°	HOT WATER RECIRCULATION 140°
NPHW	NON-POTABLE HOT WATER
GV	GREASE VENT
GW	GREASE WASTE
IW	INDIRECT WASTE
OV	OIL VENT
OW	OIL WASTE
PD	PUMP DISCHARGE
V	SANITARY VENT
W	SANITARY SEWER
SHWR	SOLAR HOT WATER RETURN
SHWS	SOLAR HOT WATER SUPPLY
RD	ROOF DRAIN
RDO	ROOF DRAIN OVERFLOW

PIPE DROP — PIPE RISE — PIPE TEE — CAP

4" — 2" — PLUG — REDUCING 45 DEGREE TEE — 45 DEGREE TEE

PIPE ACCESSORY TAGS

- 2" DOM. WM — DOMESTIC WATER METER
- 2" BALANCING — BALANCING VALVE
- 2" SHUTOFF — 1/4 TURN BALL VALVE
- 2" CHECK — CHECK VALVE
- 2" TMV — 3-WAY MIXING VALVE
- 2" M-CNTRL — MOTORIZED CONTROL VALVE
- 2" 3-WAY CNTRL — 3 WAY MOTORIZED CONTROL VALVE
- 2" PRV — PRESSURE REDUCING VALVE
- 3/8" SOLENOID — REFRIGERANT SOLENOID VALVE
- 2" BUTTERFLY — BUTTERFLY VALVE

DRAIN TAGS

DRAIN SIZE — TYPE (SEE SCHEDULE)

FLOOR DRAIN	4" FD-1	4" AD-6	AREA DRAIN
FLOOR DRAIN	4" FD-3P	4" DD-29	DECK DRAIN
FLOOR SINK	4" FS-4	4" RD-12	FLOW CONTROL DRAIN
HUB DRAIN	4" FD-13 — 8 WFU — FIXTURE UNITS	4" RD-15	ROOF DRAIN
ROOF AREA SERVED BY DRAIN	6" RD-1 — 4000 SF		COMBINATION DRAINS

"P" - INDICATES PRIMER CONNECTION

PLUMBING FIXTURE TAGS

TYPE (SEE SCHEDULE) — LAV-1A — FIXTURE UNITS — 1.5 CWFU / 1.5 HWFU

WATER CLOSET - WALL HUNG - ADA — WC-1A — WC-1 — 1 WFU

LAV-1A — U-1

PIPE ACCESORY TAG

4" WCO — 4" WCO

* NOTE *
THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

HKS

ARCHITECT
HKS ARCHITECTS, INC.
222 SOUTH MAIN, SUITE 230
SALT LAKE CITY, UT 84101

STRUCTURAL ENGINEER
REAVELEY ENGINEERS & ASSOCIATES
675 EAST 500 SOUTH, SUITE 400
SALT LAKE CITY, UTAH 84102

MECHANICAL ENGINEER
VAN BOERUM & FRANK ASSOCIATES, INC
181 EAST 5600 SOUTH, SUITE 130
MURRAY, UTAH 84107

ELECTRICAL ENGINEER
SPECTRUM ENGINEERS, INC
324 SOUTH STATE STREET, SUITE 400
SALT LAKE CITY, UTAH 84111

LICENSED PROFESSIONAL ENGINEER — No. 178893 — DONALD K. BRADSHAW — STATE OF UTH

08/15/2024

LAYTON HOSPITAL MISC PROJECTS

KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26404.000
DATE
08/15/2024
ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
MECHANICAL TITLE SHEET
SHEET NO.
M000

VBFA
181 East 5600 South
Murray, Utah 84107
O: (801)530-3148
www.vbfa.com
VBFA Project #: 240108

PLOT DATE: 8/15/2024 4:17:37 PM TEMPLATE VERSION: 2.6.8.20141012

FIRE PROTECTION GENERAL NOTES

1. SHELLED SPACES TO BE IN-FILLED SHALL HAVE EXISTING HEADS REMOVED, AND SPRINKLER DROPS ADDED TO PROVIDE FULL COVERAGE OF NEW ROOMS, PER NFPA 13 REQUIREMENTS. NEW DROPS MAY UTILIZE MECHANICAL TEES OR EXISTING 1-INCH OUTLETS (IF PRESENT). UNUSED OUTLETS SHALL BE CAPPED OR PLUGGED. OUTLETS LESS THAN 1-INCH DIAMETER SHALL NOT BE USED FOR NEW DROPS AND SHALL BE CAPPED OR PLUGGED. SEE DETAILS ON P501.
2. NO FIRE PROTECTION LINE SHALL BE DESIGNED OR INSTALLED PRIOR TO CLOSE COORDINATION WITH ALL OTHER DISCIPLINES. DUCTWORK, MECHANICAL PIPING AND PLUMBING TAKE SPACE PRECEDENCE OVER FIRE PROTECTION REMOVAL AND REINSTALLATION AT THE FIRE PROTECTION CONTRACTORS EXPENSE.
3. ALL WORK DONE SHALL BE PERFORMED WITH WATER CONTROL IN MIND. CONTAINMENT OF WATER IS NECESSARY TO PREVENT WATER FROM DAMAGING SURROUNDING AREA.
4. COORDINATE EXACT LOCATION OF PIPING WITH STRUCTURAL MEMBERS, LIGHTS, REFLECTED CEILING PLANS, CABLE TRAY, ELECTRICAL CONDUITS, DUCTWORK, MECHANICAL AND PLUMBING PIPING, AND ALL OTHER TRADES AND ALL EXISTING CONDITIONS.
5. FIRE SUPPRESSION CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE AND/OR REROUTE ANY AND ALL FIRE PROTECTION PIPING, VALVING, SUPPORTS OR SYSTEMS, OTHERWISE WITHIN THE FIRE SUPPRESSION DISCIPLINE REGARDLESS OF WHO INSTALLED THEM OR WHEN THEY WERE INSTALLED, IN ORDER TO ACCOMMODATE MECHANICAL, PLUMBING, ELECTRICAL OR OTHER SYSTEMS. COORDINATE WORK WITH MECHANICAL, ELECTRICAL, PLUMBING OR OTHER CONTRACTORS UNTIL SUBSTANTIAL COMPLETION OF PROJECT.
6. PROVIDE ALTERATIONS TO THE EXISTING FIRE PROTECTION SYSTEM AS REQUIRED TO ACCOMMODATE THE NEW FLOOR PLAN AND NEW CEILING TYPES. PROVIDE A COMPLETE WET TYPE SYSTEM INCLUDING NEW MAINS, BRANCHES, HEADS, VALVES, AND ACCESSORIES AS REQUIRED. REUSE EXISTING SYSTEM EQUIPMENT WHERE APPLICABLE. THE SYSTEM SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS AND AS PER REQUIREMENTS OF THE STATE BUILDING CODE, LOCAL FIRE DEPARTMENT, AND ALL FEDERAL, STATE, AND LOCAL AUTHORITIES, NFPA, AND FACTORY MUTUAL.
7. THE BUILDINGS COMPLETE OPERATIONAL FIRE PROTECTION SYSTEMS SHALL REMAIN IN PLACE. THIS CONTRACTOR SHALL REPAIR ANY DAMAGE TO THIS SYSTEM CREATED BY THE REMOVAL OF ANY OTHER MECHANICAL SYSTEMS OR COMPONENTS.
8. THIS CONTRACTOR SHALL COORDINATE PHASING OF SPRINKLER WORK WITH THE GENERAL CONTRACTOR PRIOR TO STARTING WORK.
9. PROVIDE A COMPLETE WET TYPE FIRE PROTECTION SYSTEM AS REQUIRED TO ACCOMMODATE THE FLOOR PLAN AND CEILING TYPES INCLUDING MAINS, BRANCHES, HEADS, VALVES, AND ACCESSORIES AS REQUIRED. THE SYSTEM SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS OF THE STATE BUILDING CODE, LOCAL FIRE DEPARTMENT, AND ALL FEDERAL, STATE, AND LOCAL AUTHORITIES, NFPA, AND FACTORY MUTUAL.
10. THE SPRINKLER SYSTEM SHALL BE DESIGNED BASED UPON ACTUAL WATER FLOW TEST DATA OBTAINED AT OR NEAR THE JOB SITE.
11. REFER TO REFLECTED CEILING PLANS FOR ADDITIONAL INFORMATION REGARDING SPRINKLER HEAD LOCATION AND PIPE, UNLESS NOTED OTHERWISE.
12. DIVISION 21 CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR PROPER INSTALLATION OF THE FIRE PROTECTION SYSTEMS ALARM DEVICES INVOLVED WITH FIRE SPRINKLER SYSTEM.
13. ALL SPRINKLER SYSTEM PIPING SHALL BE CONCEALED ABOVE THE SUSPENDED CEILING SYSTEM, UNLESS NOTED OTHERWISE. WRITTEN AUTHORIZATION SHALL BE OBTAINED FROM THE ARCHITECT PRIOR TO EXPOSING ANY PIPING IN ANY ROOM WHICH HAS A SUSPENDED CEILING.
14. THIS CONTRACTOR SHALL PROVIDE ALL ADDITIONAL SPRINKLER HEADS AS REQUIRED TO ENSURE AN APPROVED FIRE PROTECTION SYSTEM AT NO ADDITIONAL COST TO THE OWNER.
15. AUXILIARY DRAINS SHALL BE EXPOSED WITH 1" DRAIN VALVES. WHEN 5 OR MORE GALLONS ARE TRAPPED, THIS CONTRACTOR SHALL PROVIDE FIXED PIPING TO AN ADEQUATELY SIZED RECEPTOR WHICH IS CAPABLE OF ACCEPTING THE FULL FLOW OF THE DRAIN. WHEN LESS THAN 5 GALLONS ARE TRAPPED, A HOSE BIB SHALL BE PROVIDED AT THE DRAIN VALVE.
16. AUXILIARY DRAINS SHALL NOT BE LOCATED ABOVE PLASTER OR GYPSUM BOARD CEILING SYSTEMS. ONLY BY A SPECIFIC WRITTEN INSTRUCTION FROM THE ENGINEER WILL A VARIANCE BE PROVIDED.
17. AN INSPECTOR'S TEST CONNECTION SHALL BE PROVIDED FOR EACH FIRE SPRINKLER ZONE. THIS CONTRACTOR SHALL PROVIDE FIXED PIPING FROM THE TEST CONNECTION TO AN ADEQUATELY SIZED RECEPTOR WHICH IS CAPABLE OF ACCEPTING THE FULL FLOW OF THE TEST. (EXTERIOR DISCHARGE OF THE TEST CONNECTION SHALL BE PERMITTED ONLY BY SPECIFIC WRITTEN INSTRUCTION FROM THE ENGINEER.)
18. SHOW ALL ROOM NUMBERS ON SHOP DRAWING PLANS.
19. THE CONTRACTOR SHALL PERFORM A FIRE FLOW TEST IN ACCORDANCE WITH NFPA 291 IN ORDER TO VERIFY THE INFORMATION PRINTED ON THE EXISTING FIRE RISERS AND IN THE EXISTING AS-BUILT PLANS. THE DATA PRINTED ON THE EXISTING FIRE RISERS AND IN THE EXISTING AS-BUILT PLANS SHALL BE THE BASIS OF DESIGN UNLESS THE AVAILABLE PRESSURE OR FLOW HAS DECREASED. NOTIFY OWNERS' REPRESENTATIVE IF FLOW TEST DATA DIFFERS FROM THE DATA ABOVE. A FIRE PROTECTION ENGINEER OR AN ENGINEER EXPERIENCED IN WATER FLOW TESTING SHALL PERFORM OR WITNESS THE REQUIRED FLOW TESTING AND SIGN THE REPORT PRIOR TO THE FIRST SPRINKLER SYSTEM SUBMITTAL.
20. ROUTE SPRINKLER PIPING SUCH THAT IT DOES NOT RUN ABOVE ELECTRICAL PANELS, SWITCHGEAR, OR SIMILAR EQUIPMENT. SPRINKLER MAINS SHALL NOT RUN THROUGH ELECTRICAL OR COMMUNICATION ROOMS. SPRINKLER HEADS IN THESE ROOMS SHALL BE SERVED BY A DEDICATED BRANCH LINE FOR EACH ROOM. BRANCH LINE TO ENTER ROOM ABOVE DOOR.
21. THIS DRAWING INDICATES A GENERAL PIPING ARRANGEMENT AND SUGGESTED SIZING ONLY. THIS CONTRACTOR SHALL DETERMINE THE ACTUAL PIPE SIZING REQUIRED AND COORDINATE WORK WITH ALL OTHER TRADES TO AVOID CONFLICTS.
22. THIS CONTRACTOR SHALL PREPARE HYDRAULIC CALCULATIONS BASED UPON THE CONFIGURATION OF THE ACTUAL SYSTEM DESIGN AS SHOWN ON THIS CONTRACTOR'S SHOP DRAWINGS.

PLUMBING GENERAL NOTES

1. UNLESS OTHERWISE NOTED, SLOPE PIPE AS FOLLOWS: WASTE BRANCHES: 1/4" PER FOOT; WASTE MAINS: 1/4" PER FOOT; ROOF DRAIN/ROOF DRAIN OVERFLOW: 1/8" PER FOOT. VERIFY ALL SLOPING WITH LOCAL CODES.
2. ALL WORK DONE SHALL BE PERFORMED WITH WATER CONTROL IN MIND. CONTAINMENT OF WATER IS NECESSARY TO PREVENT WATER FROM DAMAGING AREAS ON FLOORS BELOW.
3. PLUMBING DRAWINGS ARE SCHEMATIC IN NATURE. FIELD VERIFY EXACT PIPE ROUTING AND COORDINATE WITH ALL OTHER TRADES.
4. ALL PIPING IN PLUMBING CHASES SHALL BE ARRANGED TO ALLOW MAINTENANCE ACCESS.
5. NO PIPING TO RUN OVER ELECTRICAL PANELS, VFD'S OR MCC'S. PROTECT EQUIPMENT WITH A 42" DEEP ZONE IN FRONT OF PANELS, VFD'S, AND MCC'S.
6. COORDINATE FAN ROOM FLOOR DRAIN AND FLOOR SINK LOCATIONS WITH COOLING COIL, EVAPORATIVE SECTION, AND HEATING COIL LOCATIONS.
7. CONTRACTOR TO PROVIDE VALVE IDENTIFICATION AND LOCATION ON ALL CEILING TILES WHERE VALVES ARE LOCATED.
8. PIPING AND ROUTING SHOWN, INCLUDING ALL BELOW FLOOR DECK PIPING IS APPROXIMATE. IT IS UP TO THE CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION AND SIZE OF ALL PIPING.
9. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE MOUNTING HEIGHTS, DIMENSIONS AND OTHER REQUIREMENTS.
10. CONTRACTOR TO VERIFY CONNECTION SIDE OF ADA FIXTURES AND ADJUST ACCORDINGLY. INSTALL FLUSH VALVES HANDLES ON WIDE SIDE OF ALL FIXTURES.
11. LOCATE ALL VENTS MINIMUM 25' AWAY FROM AIR INTAKES.
12. INSTALL ALL DOMESTIC WATER LINES BELOW DUCTWORK.
13. INSTALL A 24" X 24" ACCESS DOOR BELOW ALL ISOLATION VALVES, BALANCING VALVES AND WATER HAMMER ARRESTORS WHERE MOUNTED ABOVE HARD CEILINGS.
14. MOUNT ALL ISOLATION VALVES, CONTROL VALVES, BALANCING VALVES, ETC. NEAR CEILING HEIGHT FOR ACCESSIBILITY.
15. INSTALL ALL EQUIPMENT WITH SUFFICIENT CLEARANCE FOR MAINTENANCE PER MANUFACTURERS RECOMMENDATION.
16. COORDINATE ALL FLOOR PENETRATIONS WITH STRUCTURAL AND PROVIDE SLEEVES AS NECESSARY.
17. COORDINATE THE LOCATION OF THE FLOOR DRAIN, SHOWER DRAIN, OR FLOOR SINK WITH ARCHITECTURAL AND STRUCTURAL, TYPICAL.
18. SEE PLUMBING FIXTURE SCHEDULE FOR PIPE SIZES OF WASTE, VENT AND DOMESTIC WATER TO/FROM SINGLE FIXTURE.
19. HOSE BIBBS SHOWN AT LAVATORIES ARE TO BE MOUNTED AT AN ACCESSIBLE LOCATION UNDER THE LAVATORY.
20. LOCATE CIRCUIT SETTERS, VALVES, WATER HAMMER ARRESTORS, ETC. IN ACCESSIBLE LOCATIONS. PROVIDE 24" X 24" ACCESS PANEL WHERE ITEM IS LOCATED ABOVE A HARD CEILING. PROVIDE APPROPRIATELY SIZED ACCESS DOORS TO ANY OF THESE ITEMS INSTALLED IN A WALL. COORDINATE ACCESS DOOR SIZE, LOCATION, AND STYLE WITH ARCHITECT.
21. FIELD VERIFY LOCATION AND INVERTS OF SITE UTILITIES PRIOR TO INSTALLATION.
22. FIELD VERIFY ALL NEW WATER, WASTE AND VENT PIPING CONNECTIONS AND PROVIDE NEW CONNECTIONS AS REQUIRED FOR PROPERLY OPERATING SYSTEMS.
23. WASTE AND VENT PIPING BELOW FLOOR AND THROUGH FLOOR TO BE 2" MINIMUM.
24. INSTALL CLEANOUTS IN DRAIN PIPING AS INDICATED, AND WHERE NOT INDICATED, ACCORDING TO THE FOLLOWING.
    A. SIZE SAME AS DRAINAGE PIPING UP TO 4" NPS. USE 4" NPS FOR LARGER. DRAINAGE PIPING UNLESS LARGER CLEANOUT IS INDICATED.
    B. LOCATE AT MINIMUM INTERVALS OF 50 FT FOR PIPING 4" NPS AND SMALLER AND 100 FT FOR LARGER PIPING.
    C. LOCATE AT THE BASE OF EACH VERTICAL STACK.

MEDICAL GAS GENERAL NOTES

1. MEDICAL GAS PIPING IS TO BE RUN ABOVE THE CEILING, UNLESS NOTED OTHERWISE.
2. MEDICAL GAS PIPING IS SCHEMATIC IN NATURE. FIELD VERIFY EXACT PIPE ROUTING AND COORDINATE WITH ALL OTHER TRADES.
3. MOUNT ALL SERVICE VALVES NEAR CEILING HEIGHT FOR ACCESSIBILITY.
4. ALL SERVICE VALVES SHALL BE LOCKABLE. PROVIDE FRANGIBLE LOCK FOR ALL SERVICE VALVES.
5. ALL ZONE VALVE BOXES REQUIRE SOURCE AIR FROM LEFT SIDE AND CONTROLLED AIR FROM RIGHT SIDE.

MECHANICAL GENERAL NOTES

1. COORDINATE EXACT PLACEMENT OF DIFFUSERS, GRILLES AND REGISTERS WITH ARCHITECTURAL REFLECTED CEILING PLAN, TYPICAL.
2. SEE DETAIL FOR DIFFUSER CONNECTIONS TO DUCTWORK, TYPICAL.
3. BRANCH DUCTWORK SHALL BE SIZED TO MATCH THE NECK INLET SIZE OF THE DIFFUSERS, REGISTER OR GRILLE IT SERVES UNLESS NOTED OTHERWISE, TYPICAL.
4. COORDINATE EXACT MOUNTING LOCATION OF ALL THERMOSTATS WITH LATEST REVISION OF ARCHITECTURAL ELEVATION AND FURNISHINGS PLANS, TYPICAL.
5. THE MECHANICAL CONTRACTOR SHALL PROVIDE FIRE, SMOKE OR COMBINATION FIRE/SMOKE DAMPERS AT ALL LOCATIONS SHOWN ON THE CONTRACT DOCUMENTS AND AS REQUIRED TO MEET THE INTEGRITY OF ALL SMOKE AND FIRE PARTITIONS. THE CONTRACTOR SHALL REFER TO THE LATEST ARCHITECTURAL LIFE SAFETY PLANS FOR ALL FIRE AND SMOKE PARTITION LOCATIONS. DAMPERS ARE TO BE PROVIDED WITH SHUTOFF/TEST SWITCH AT EACH LOCATION.
6. PROVIDE AND INSTALL TURNING VANES IN ALL SQUARE LOW PRESSURE DUCTWORK AT ELBOWS OR TEES, TYPICAL.
7. INSTALL ALL TERMINAL BOXES IN EASILY ACCESSIBLE AND SERVICEABLE LOCATIONS, MEETING ALL MANUFACTURERS REQUIRED CLEARANCES ON EACH SIDE. SEE DETAILS, TYPICAL.
8. DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS. REFER TO MECHANICAL SPECIFICATIONS FOR EXTENT OF DUCT INSULATION AND LINER AND ADJUST SHEET METAL DIMENSION.
9. PROVIDE AND INSTALL REMOTE DAMPER OPERATORS FOR ALL DAMPERS INSTALLED ABOVE INACCESSIBLE CEILING, SEE MECHANICAL SPECIFICATIONS FOR EQUIPMENT REQUIREMENTS, TYPICAL.
10. PROVIDE AND INSTALL HIGH EFFICIENCY TAKE-OFF FITTINGS AND BALANCING DAMPER AT ALL BRANCH CONNECTIONS TO LOW PRESSURE DUCTWORK. PROVIDE BALANCING DAMPERS AT EACH BRANCH TAKE OFF TO SERVE DIFFUSER OR GRILLE AS WELL AS WHERE INDICATED.
11. PROVIDE AND INSTALL HIGH EFFICIENCY OR CONICAL TAKE-OFFS AT ALL BRANCH CONNECTIONS TO MEDIUM PRESSURE DUCTWORK.
12. WHERE DUCTWORK CROSSES, SUPPLY DUCTWORK IS USUALLY BELOW RETURN AND EXHAUST DUCT. RETURN DUCTWORK IS USUALLY BELOW EXHAUST DUCTS.
13. AT LOCATIONS WHERE DIFFUSERS OR GRILLES ARE UNDER DUCTWORK, CONTRACTOR TO FABRICATE TRANSITION BOOT FROM FLEX CONNECTION TO DIFFUSER OR GRILLE WITH BALANCING DAMPER, TYPICAL.
14. THE MECHANICAL CONTRACTOR SHALL PROVIDE CEILING MOUNTED ACCESS DOORS FOR ALL FIRE, SMOKE AND COMBINATION FIRE/SMOKE DAMPERS INSTALLED ABOVE INACCESSIBLE CEILING. FIELD VERIFY EXACT INSTALLATION LOCATIONS PRIOR TO COMMENCING WORK AND COORDINATE INSTALLATIONS WITH LATEST ARCHITECTURAL REFLECTED CEILING PLANS.
15. ALL VAV BOXES TO HAVE REHEAT COILS, EXCEPT AS NOTED. PROVIDE EQUIPMENT TAG TO MATCH SCHEDULE. PROVIDE A MINIMUM OF TWO DUCT DIAMETERS OF STRAIGHT ROUND DUCT TO INLET OF VAV BOX. BOX SHALL BE HARD CONNECTED (CONICAL) TO MEDIUM PRESSURE DUCT, TYPICAL.
16. PROVIDE ACCESS DOORS TO ACCESS VAV BOX CONTROLS ABOVE HARD CEILINGS. PROVIDE MINIMUM 24" X 24".
17. FLEX DUCT IS REQUIRED FOR ALL DIFFUSERS AND GRILLES INSTALLED IN LAY-IN CEILINGS. FOR DIFFUSERS AND GRILLES IN HARD LID CEILINGS, THE DUCTWORK SHALL BE EXTENDED ALL THE WAY TO THE DIFFUSER AND SHALL BE CONNECTED WITH A HARD CONNECTION OR A FLEX DUCT CONNECTION WITH A MUD RING AND LAY-IN DIFFUSER AS SHOWN ON PLANS.
18. THE CONTRACTOR SHALL INFORM THE DESIGNER OF ANY PROPOSED DEVIATIONS FROM THE CONTRACT DOCUMENTS.
19. PROVIDE ACCESS TO ALL TEMPERATURE CONTROLS ABOVE CEILING, LOCATE IN ACCESSIBLE LOCATION. WHERE THERE ARE HARD CEILINGS THE CONTRACTOR SHALL PROVIDE 24" X 24" ACCESS DOOR.
20. SUPPLY AND RETURN PIPING TO COILS ARE THE SAME SIZE.
21. CONTRACTOR SHALL LOCATE THERMOSTATS AND TEMPERATURE SENSORS AT 5'-0" AFF. A MINIMUM OF 8" FROM LIGHT SWITCH, UNLESS OTHERWISE NOTED ON THE ARCHITECT'S ELEVATIONS. COORDINATE EXACT LOCATIONS WITH ARCHITECT.
22. REFER TO MECHANICAL PIPING OR ZONING DRAWINGS FOR THERMOSTAT AND TEMPERATURE SENSOR LOCATIONS.
23. CONDENSATE DRAINS SHALL BE SUPPLIED FOR ALL COOLING EQUIPMENT. CONTRACTOR SHALL ENSURE PROPER INSTALLATION AND DRAINAGE AS REQUIRED BY FEDERAL, STATE, AND LOCAL CODES. CONDENSATE PIPINE SHALL BE TYPE "L" COPPER UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS.
24. PROVIDE A 4" HOUSEKEEPING PAD FOR EACH PIECE OF MECHANICAL EQUPMENT THAT IS FLOOR MOUNTED. COORDINATE SIZES WITH MECHANICAL EQUIPMENT SELECTED.
25. ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK SHALL BE RATED FOR PRESSURE CLASS OF 2" W.G. UNLESS NOTED OTHERWISE ON THE PLANS OR IN THE SPECIFICATIONS.
26. THIS CONTRACTOR SHALL BE REQUIRED TO REPLACE FILTERS ON HVAC EQUIPMENT AFTER ALL DUST PRODUCING CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO THE FINAL PUNCH.

MECHANICAL PIPING GENERAL NOTES

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PIPING SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
2. UNLESS OTHERWISE NOTED: ALL MECHANICAL PIPING IS OVERHEAD TO RUN ABOVE DUCTWORK AND TIGHT TO UNDERSIDE OF STRUCTURE.
3. INSTALL PIPING SO THAT ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES, AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
4. ALL VALVES SHALL BE INSTALLED SO THAT VALVES REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED.
5. PROVIDE AIR VENT AT HIGH POINT OF EACH DROP IN THE HEATING AND CHILLED WATER PIPING SYSTEM.
6. ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION AND TAGGED.
7. PROVIDE ISOLATION VALVES AT EACH EXIST/ENTRANCE INTO SHAFT WHETHER OR NOT SHOWN.
8. COORDINATE LOCATION OF THERMOSTAT WITH ARCHITECTURAL FURNISHING PLANS. MOUNT THERMOSTAT AT HEIGHT AS SPECIFIED ON ARCHITECTURAL PLANS OR SPECIFICATIONS.

PROJECT GENERAL NOTES

1. THE PROJECT GENERAL NOTES APPLY TO ALL DISCIPLINES.
2. REMOVE ALL UNUSED PIPING, DUCTWORK, EQUIPMENT, AND ACCESSORIES.
3. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS FOR PLUMBING AND MECHANICAL SYSTEMS WITHIN THE TENANT SPACE AND WITHIN CLOSE PROXIMITY TO THE TENANT SPACE. THE CONTRACTOR WILL FIELD VERIFY AS MUCH AS IS REASONABLE BEFORE THE FINAL BID. AFTER THE FINAL BID THE CONTRACTOR WILL NOTIFY THE OWNER, ARCHITECT, AND MECHANICAL DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF EXISTING CONDITIONS THAT MAY AFFECT THE DESIGN.
4. THE MECHANICAL CONTRACTOR SHALL PERFORM SERVICE AND REPAIR ON THE EXISTING EQUIPMENT AND ITS ACCESSORIES AS FOLLOWS: CLEAN ALL COILS, REPLACE THE FILTERS AND BELTS, INSPECT, REPAIR, OR REPLACE THE ECONOMIZERS, DRIVERS AND FAN BEARINGS, MOTORS, CONTROL COMPONENTS, VALVES, AND ANY OTHER ITEM NECESSARY FOR A COMPLETE AND PROPER OPERATING SYSTEM. THIS CONTRACTOR SHALL ALSO VISIT THE SITE, PRIOR TO FINAL BIDDING, AND VERIFY ALL EXISTING SITE CONDITIONS. PROVIDE ALL MATERIAL AND COMPONENTS AS NEEDED TO BRING THE UNITS TO FULL COMPLIANCE OF THE LANDLORD'S CRITERIA AND LOCAL AUTHORITY HAVING JURISDICTION.
5. WHERE FLOOR DRAINS OCCUR WITH THE LIMITS OF CONSTRUCTION, PREVENT CONSTRUCTION DEBRIS FROM ENTERING DRAIN BODY BY SEALING DRAIN OPENING PRIOR TO START OF WORK. UNSEAL DRAINS AT COMPLETION OF CONSTRUCTION.
6. COORDINATE INSTALLATION OF PIPING, DUCTWORK, CONDUIT, LIGHTS, CABLE TRAY, STRUCTURE, EQUIPMENT, CEILINGS, ARCHITECTURAL COMPONENTS, AND ANYTHING ELSE PERTAINING TO THE PROJECT TO PREVENT CONFLICTS.
7. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS AND THOSE OF OTHER DISCIPLINES, INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, CIVIL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED ON THIS PROJECT.
8. FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM, AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE INTERNATION BUILDING CODE, INTERNATIONAL MECHANICAL CODE, AND INTERNATIONAL PLUMBING CODE.
9. LOCATE EQUIPMENT REQUIRING ACCESS 2'-0" MAXIMUM ABOVE CEILING.
10. ALL ROOF MOUNTED EQUIPMENT SHALL BE A MINIMUM 10'-0" FROM EDGE OF ROOF.
11. COORDINATE INSTALLATION OF DUCTWORK, PIPING AND MECHANICAL EQUIPMENT WITH NEC CLEARANCES INCLUDING THE SPACE ABOVE ELECTRICAL PANELS, TRANSFORMERS AND OTHER ELECTRICAL EQUIPMENT. NO PIPING OR DUCTWORK TO RUN OVER ELECTRICAL PANELS, VFD'S OR MCC'S. PROTECT EQUIPMENT WITH A 42" DEEP ZONE IN FRONT OF PANELS, VFD'S AND MCC'S. PROVIDE PANS IF REQUIRED UNDER PIPING.
12. FIRE SEAL AROUND DUCT AND PIPING PENETRATIONS OF FIRE RATED WALLS. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CAULKING AND SEALING ALL PENETRATIONS IN FIRE AND SMOKE RATED PARTITIONS TO MAINTAIN RATINGS. REFER TO SPECIFICATION.
13. PROVIDE SLEEVES AND/OR OPENINGS TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOORS, WALLS, AND ROOF.
14. TRANSITION PIPING AND DUCTWORK SIZES TO MATCH THE SIZE OF EQUIPMENT CONNECTION.
15. REFER TO PLUMBING SERIES DRAWINGS FOR GAS PIPING.
16. ALL PIPE AND DUCT SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE IS SHOWN.
17. FOR DETAILS, EQUIPMENT CONNECTIONS, AND PIPE SIZES NOT SHOWN ON THE SEGMENTS, REFER TO DETAILS, SCHEDULES, AND SPECIFICATIONS.
18. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS.
19. MECHANICAL CONTRACTOR SHALL ENSURE THAT ALL EQUIPMENT IS PROVIDED AND INSTALLED WITH CLEARANCES PER MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL MAINTAIN PROPER SERVICE SPACE FOR COIL PULLS, BAS DEVICES, MAINTENANCE ACCESS, ETC.
20. INSTALL EXPOSED PIPING AND DUCTWORK AS HIGH AS PRACTICAL IN ROOMS WITHOUT CEILINGS.
21. LOCATIONS OF PIPING, DUCTWORK AND EQUIPMENT AS INDICATED ON THE DRAWING, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD, INCLUDING, BUT NOT LIMITED TO, OFFSETS AND TRANSITIONS. NEW DUCTWORK, PIPING AND EQUIPMENT SHALL BE COORDINATED WITH STRUCTURE, LIGHTS, REFLECTED CEILING PLANS, CABLE TRAY, ELECTRICAL CONDUIT, PLUMBING, MECHANICAL AND FIRE PROTECTION PIPING, MEDICAL GASES, ALL OTHER TRADES AND ALL OTHER EXISTING CONDITIONS TO AVOID INTERFERENCE IN THE FIELD.
22. THE CONTRACTOR SHALL INFORM THE DESIGNER OF ANY PROPOSED DEVIATIONS FROM THE CONTRACT DOCUMENTS.
23. IF CONTRACTOR ENCOUNTERS MATERIAL WHICH MAY CONTAIN ASBESTOS, IMMEDIATELY STOP WORK IN THIS AREA AND NOTIFY THE OWNER.
24. DETAILS REFERENCE ALL SHEETS.
25. INSTALL ALL PIPING AND DUCTWORK WITHOUT FORCING OR SPRINGING.
26. ROUTE DOMESTIC WATER, FIRE PROTECTION, SANITARY WASTE, ROOF DRAIN, CAMPUS CHILLED OR HOT WATER, AND ANY OTHER UTILITY SERVICES TO SITE UTILITIES 5'-0" FROM BUILDING UNLESS NOTED OTHERWISE. REFER TO CIVIL PLANS.
27. LOCATE VALVING, ACCESSORIES, AND EQUIPMENT IN ACCESSIBLE LOCATIONS. WHERE LOCATED ABOVE HARD CEILING PROVIDE AN ACCESS DOOR IN CEILING. MINIMUM ACCESS DOOR SIZE OF 24" X 24". COORDINATE EXACT LOCATION AND STYLE WITH ARCHITECT. EQUIPMENT SHALL BE LOCATED IN THE CEILING CAVITY SO IT CAN BE SAFELY SERVICED FROM SOMEONE STAND ON A LADDER PLACED BELOW THE CEILING ACCESS.
28. WHERE VALVING, ACCESSORIES, OR EQUIPMENT IS LOCATED IN A WALL, PROVIDE AN APPROPRIATELY SIZED ACCESS DOOR. COORDINATE ACCESS DOOR SIZE, LOCATION, AND STYLE WITH ARCHITECT.
29. CONTRACTOR TO PROVIDE VALVE IDENTIFICATION AND LOCATION ON ALL CEILING TILES WHERE VALVES ARE LOCATED.

* NOTE *
ALL OF THE GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET.

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LICENSED PROFESSIONAL ENGINEER
No. 178893
DONALD K. BRADSHAW
STATE OF UTAH

08/15/2024

LAYTON HOSPITAL MISC PROJECTS

KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26404.000
DATE
08/15/2024
ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
MECHANICAL GENERAL NOTES

SHEET NO.
M001

VBFA
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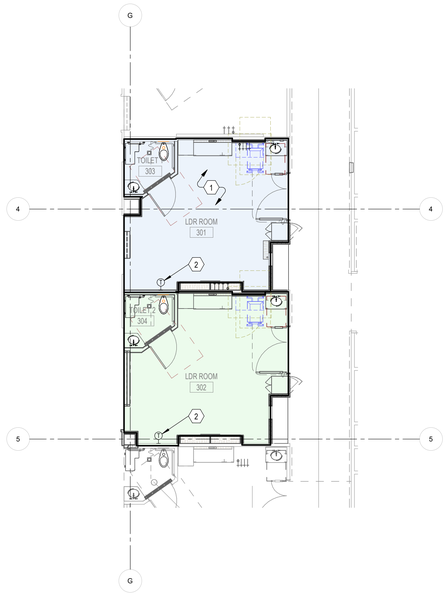
KEYNOTES

1 COLORED REGIONS REPRESENT INDIVIDUALLY CONTROLLED THERMAL ZONE BOUNDARIES.

2 NEW THERMOSTAT. COORDINATE EXACT PLACEMENT WITH ARCHITECTURAL ELEVATIONS.



1 LEVEL 3 LDR THERMAL ZONE DIAGRAM
1/8" = 1'-0"

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SHEET TITLE
LDR THERMAL ZONE PLAN

SHEET NO.
M1.01

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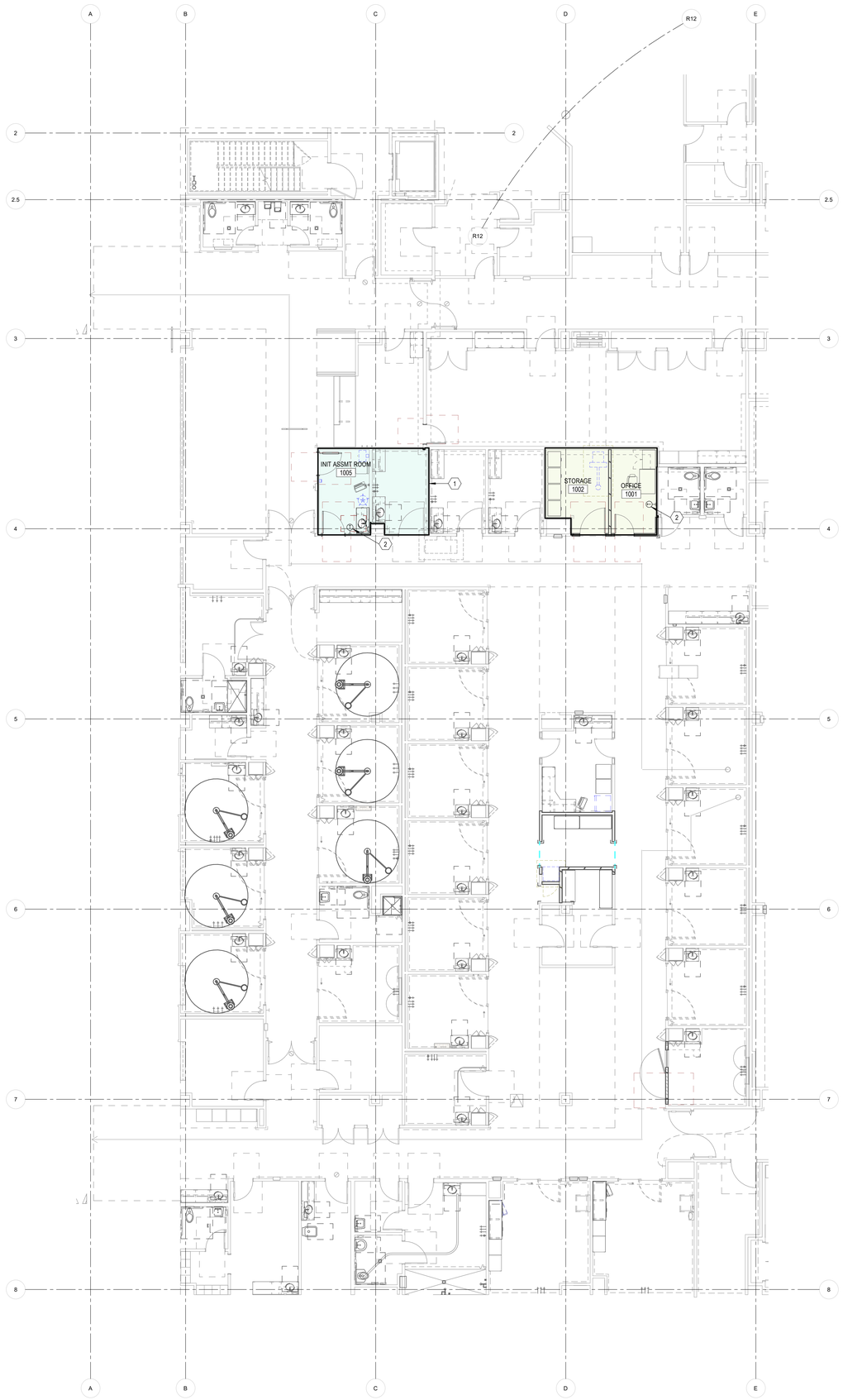

KEYNOTES

1 COLORED REGIONS REPRESENT INDIVIDUALLY CONTROLLED THERMAL ZONE BOUNDARIES.
2 EXISTING THERMOSTAT.

1 LEVEL 1 ED THERMAL ZONE DIAGRAM
1/8" = 1'-0"

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SHEET TITLE
ED THERMAL ZONE PLAN

SHEET NO.
M1.03

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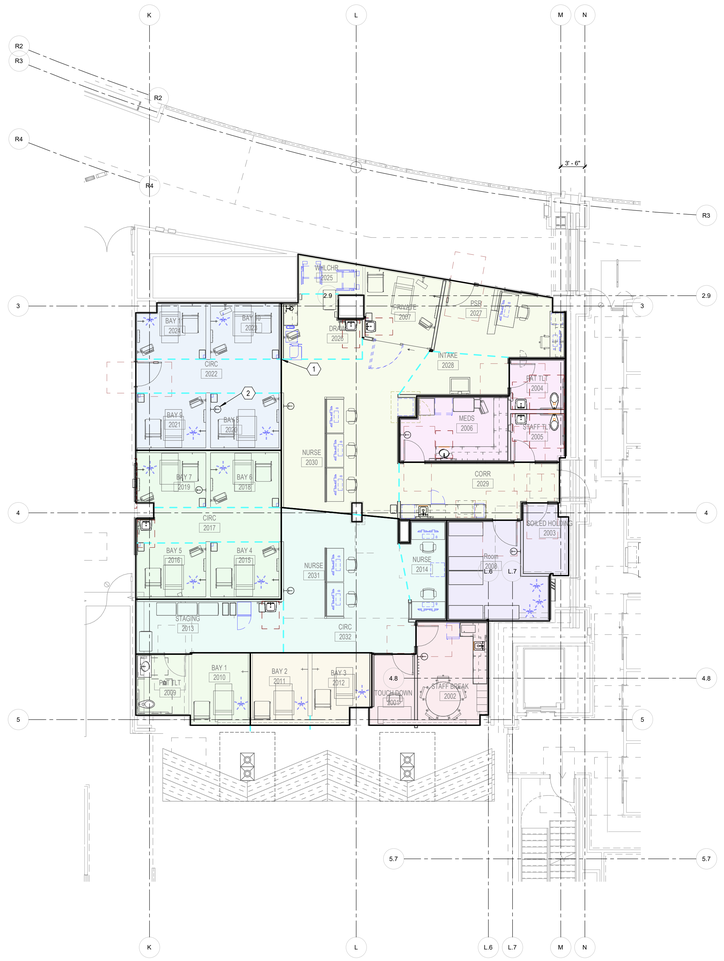
KEYNOTES

1 COLORED REGIONS REPRESENT INDIVIDUALLY CONTROLLED THERMAL ZONE BOUNDARIES.
2 NEW THERMOSTAT. COORDINATE EXACT PLACEMENT OF THERMOSTAT WITH ARCHITECTURAL ELEVATIONS, TYPICAL.



2 THERMAL ZONE DIAGRAM
1/8" = 1'-0"

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08/15/2024

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ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
THERMAL ZONE PLAN

SHEET NO.
M1.11

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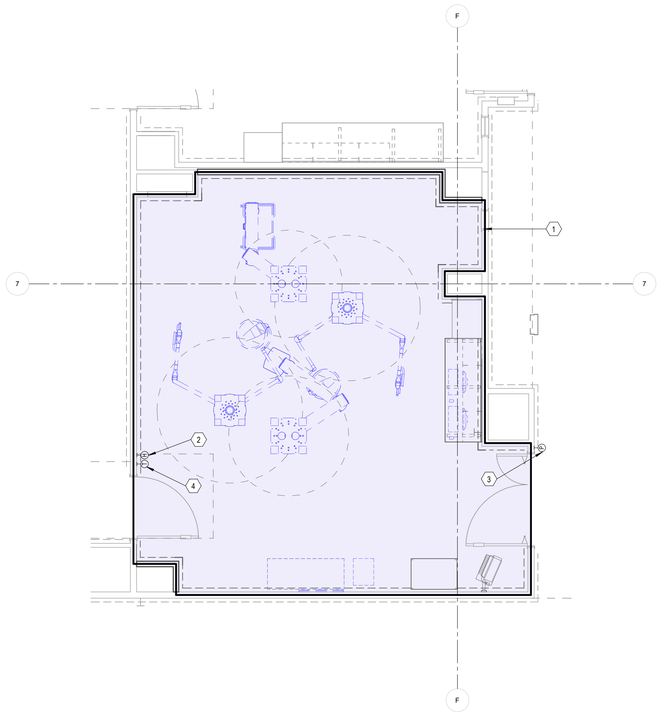
KEYNOTES

1. COLORED REGIONS REPRESENT INDIVIDUALLY CONTROLLED THERMAL ZONE BOUNDARIES.
2. NEW HUMIDISTAT. COORDINATE EXACT PLACEMENT WITH ARCHITECTURAL ELEVATIONS.
3. NEW THRU WALL PRESSURE MONITOR. ROOM SHALL BE BALANCED TO MAINTAIN POSITIVE PRESSURIZATION. COORDINATE EXACT PLACEMENT WITH ARCHITECTURAL ELEVATIONS.
4. NEW THERMOSTAT. COORDINATE EXACT PLACEMENT WITH ARCHITECTURAL ELEVATIONS.



1 OR THERMAL ZONE DIAGRAM
1/4" = 1'-0"

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SHEET TITLE
OR THERMAL ZONE PLAN

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M1.13

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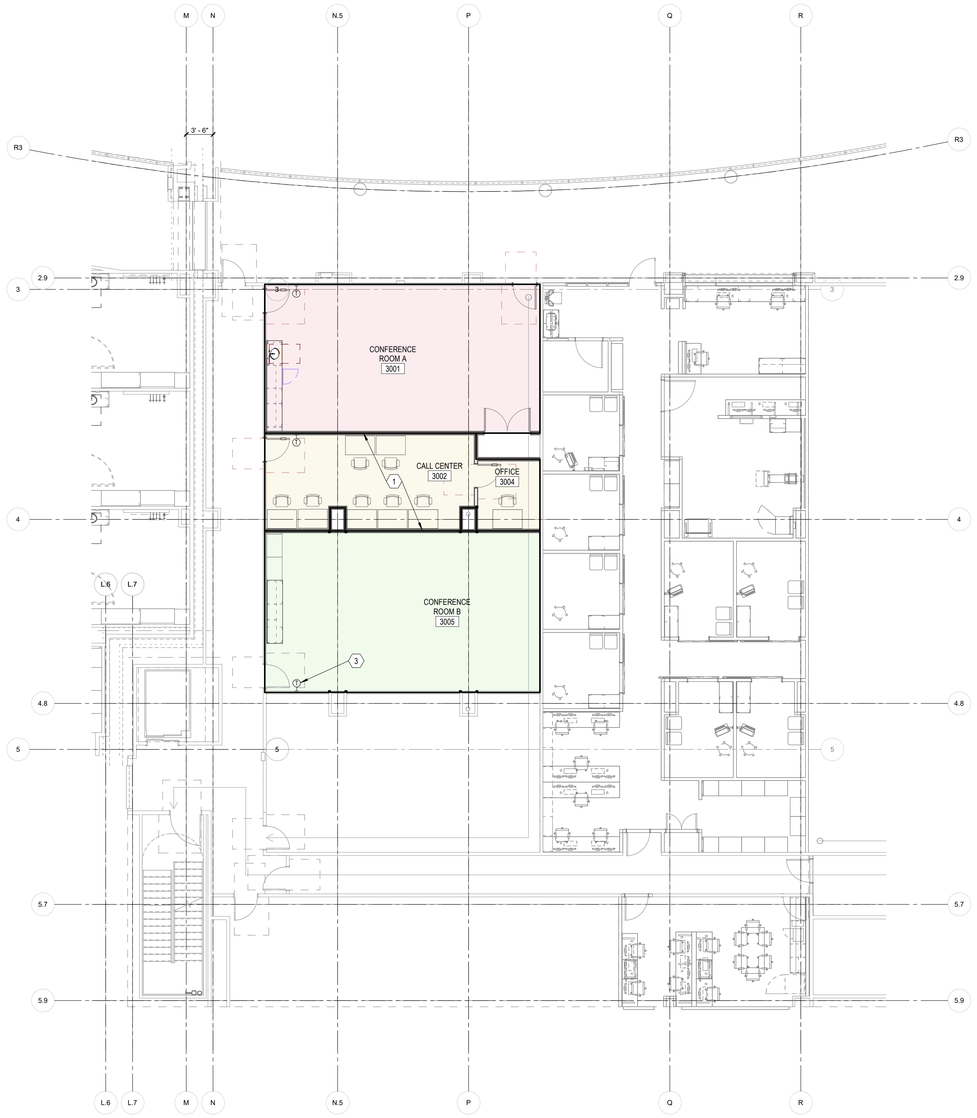
KEYNOTES

1 COLORED REGIONS REPRESENT INDIVIDUALLY CONTROLLED THERMAL ZONE BOUNDARIES.

3 NEW THERMOSTAT. COORDINATE EXACT PLACEMENT WITH ARCHITECTURAL ELEVATIONS.



1 LEVEL 3 LDR THERMAL ZONE DIAGRAM

1/8" = 1'-0"

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CONFERENCE ROOM ZONE PLAN

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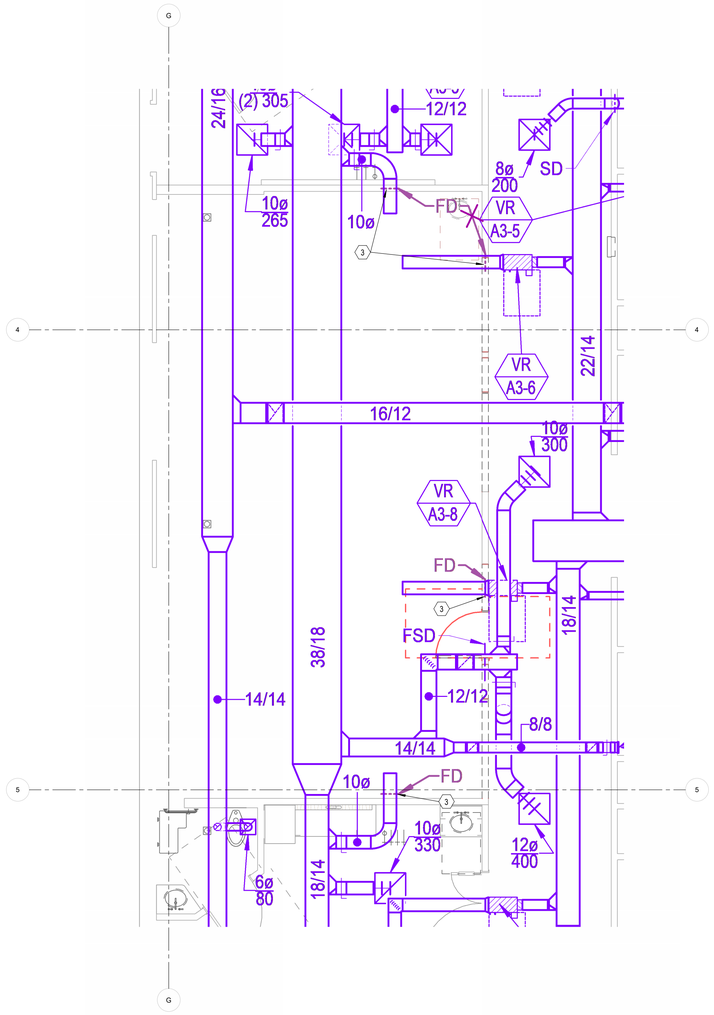
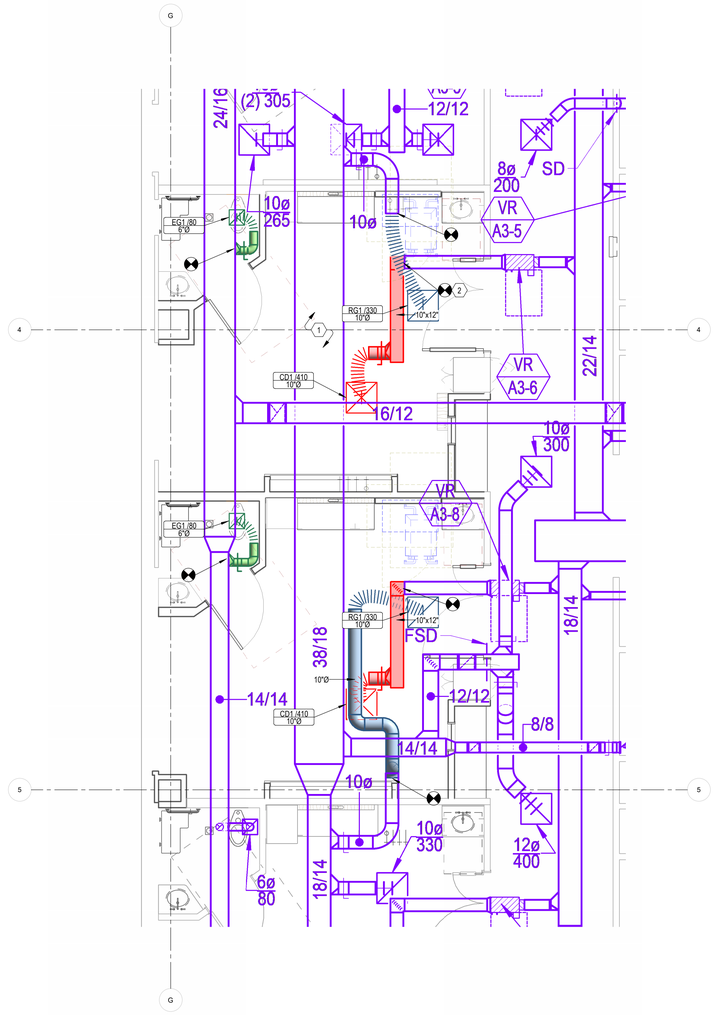
KEYNOTES

1 EXISTING SHOWN LIGHT TO REMAIN. NEW WORK SHOWN DARK. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
2 CONNECT TO EXISTING DUCT AT APPROXIMATELY THIS POINT. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
3 REMOVE EXISTING FIRE DAMPER.



1 LEVEL 3 LDR HVAC DEMOLITION PLAN
1/4" = 1'-0"



2 LEVEL 3 LDR HVAC PLAN
1/4" = 1'-0"

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08/15/2024

LAYTON HOSPITAL MISC PROJECTS

KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
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ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
LDR HVAC PLANS

SHEET NO.
M2.01

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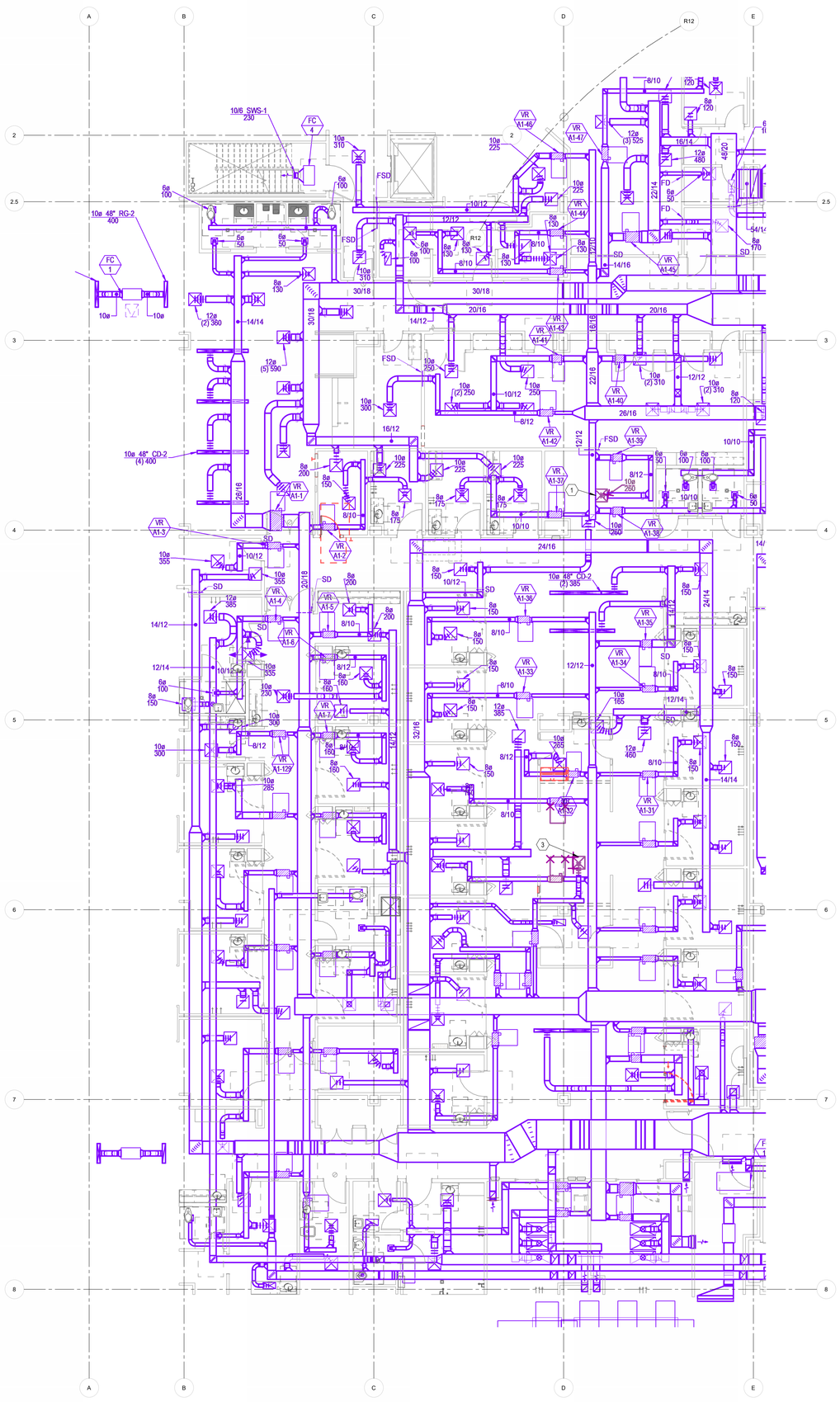
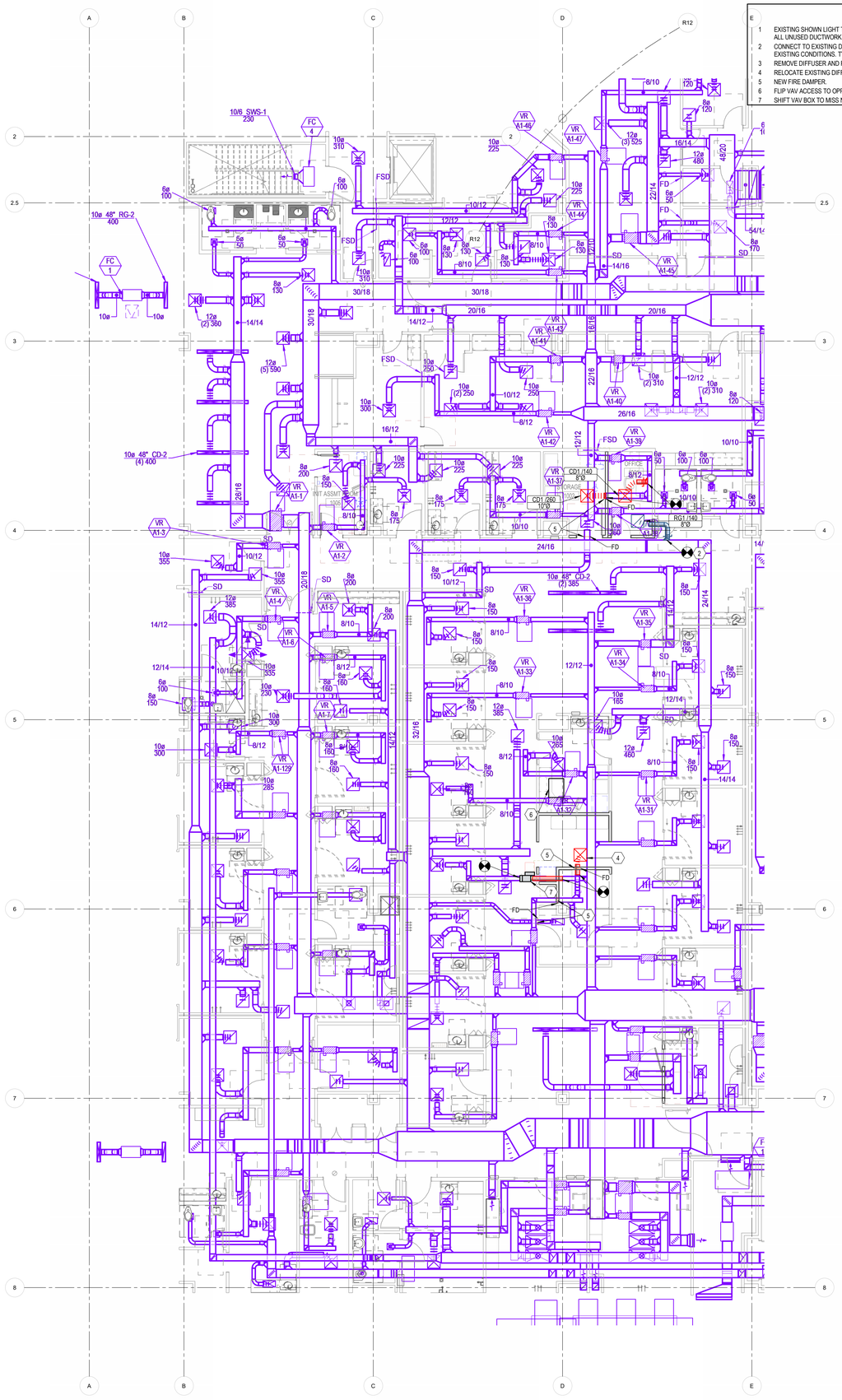


1 ED HVAC DEMOLITION PLAN

1/8" = 1'-0"



2 ED HVAC REMODEL PLAN

1/8" = 1'-0"

KEYNOTES

1	EXISTING SHOWN LIGHT TO REMAIN. ITEMS CROSSED OUT TO BE REMOVED. CAP ALL UNUSED DUCTWORK. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
2	CONNECT TO EXISTING DUCT AT APPROXIMATELY THIS POINT. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
3	REMOVE DIFFUSER AND FLEX. KEEP FOR REINSTALLATION.
4	RELOCATE EXISTING DIFFUSER IN CEILING. EXTEND FLEX DUCT AS NECESSARY.
5	NEW FIRE DAMPER.
6	FLIP VAV ACCESS TO OPPOSITE SIDE.
7	SHIFT VAV BOX TO MISS NEW WALL. FIELD VERIFY EXISTING CONDITIONS.

HKS

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STRUCTURAL ENGINEER
REAVELEY ENGINEERS & ASSOCIATES
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SALT LAKE CITY, UTAH 84102

MECHANICAL ENGINEER
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MURRAY, UTAH 84107

ELECTRICAL ENGINEER
SPECTRUM ENGINEERS, INC
324 SOUTH STATE STREET, SUITE 400
SALT LAKE CITY, UTAH 84111

LICENSED PROFESSIONAL ENGINEER
No. 178893
DONALD K. BRADSHAW
STATE OF UTH

08/15/2024

LAYTON HOSPITAL MISC PROJECTS

KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26404.000
DATE
08/15/2024
ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
ED HVAC PLANS

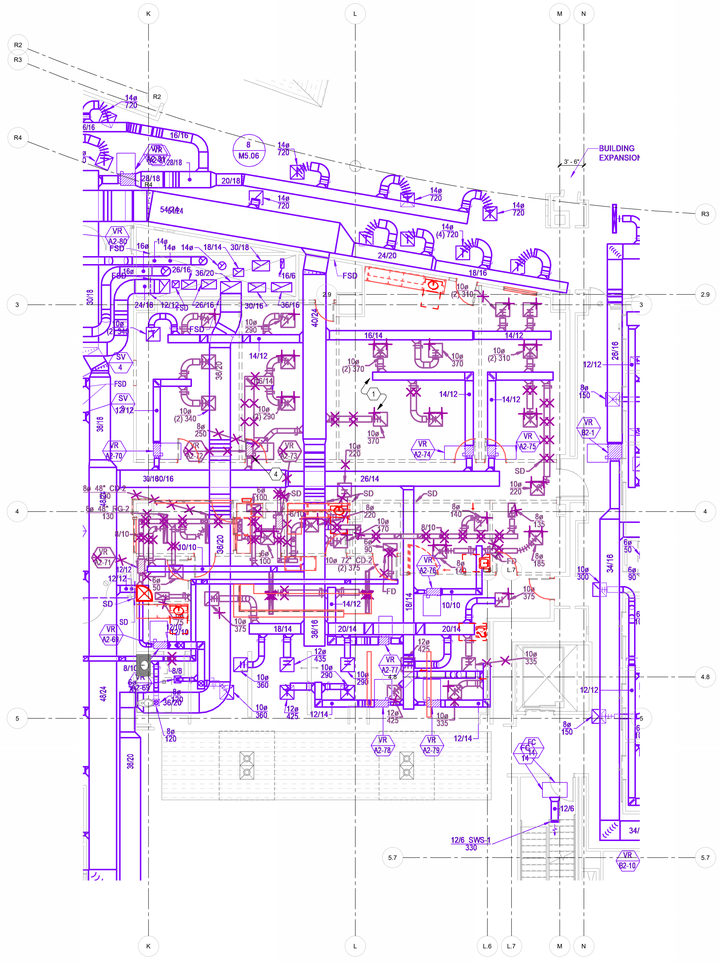
SHEET NO.
M2.03

VBFA
181 East 5600 South
Murray, Utah 84107
O: (801)530-3148
www.vbfa.com
VBFA Project #: 240108

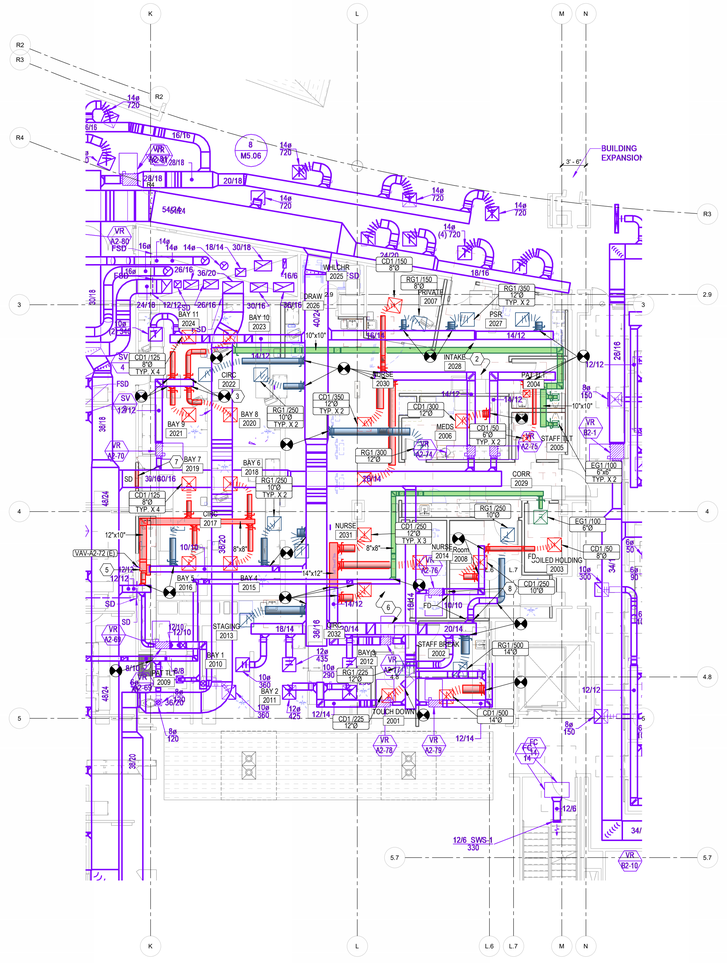
PLOT DATE: 8/15/2024 4:17:58 PM TEMPLATE VERSION: 2.6.8.20141012

KEYNOTES

1. EXISTING SHOWN LIGHT TO REMAIN. ITEMS CROSSED OUT TO BE REMOVED. CAP ALL UNUSED DUCTWORK. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
2. EXISTING SHOWN LIGHT TO REMAIN. NEW WORK SHOWN DARK. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
3. CONNECT TO EXISTING DUCT AT APPROXIMATELY THIS POINT. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
4. REMOVE EXISTING VAV BOX VR-A2-72. SALVAGE FOR REINSTALLATION.
5. REINSTALL SALVAGED VAV BOX IN THIS LOCATION.
6. REBALANCE ALL DIFFUSERS/GRILLES IN SCOPE OF PROJECT.
7. INSTALL NEW SMOKE DAMPER IN EXISTING DUCT AT RATED WALL.
8. NEW FIRE DAMPER.



1 **INFUSION HVAC DEMOLITION PLAN**
1/8" = 1'-0"



2 **INFUSION HVAC REMODEL PLAN**
1/8" = 1'-0"

ARCHITECT
HKS ARCHITECTS, INC.
222 SOUTH MAIN, SUITE 230
SALT LAKE CITY, UT 84101

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MECHANICAL ENGINEER
VAN BOERUM & FRANK ASSOCIATES, INC
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ELECTRICAL ENGINEER
SPECTRUM ENGINEERS, INC
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LICENSED PROFESSIONAL ENGINEER
No. 178893
DONALD K. BRADSHAW
STATE OF UTAH
08/15/2024

LAYTON HOSPITAL MISC PROJECTS

KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26404.000
DATE
08/15/2024
ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
INFUSION HVAC PLANS

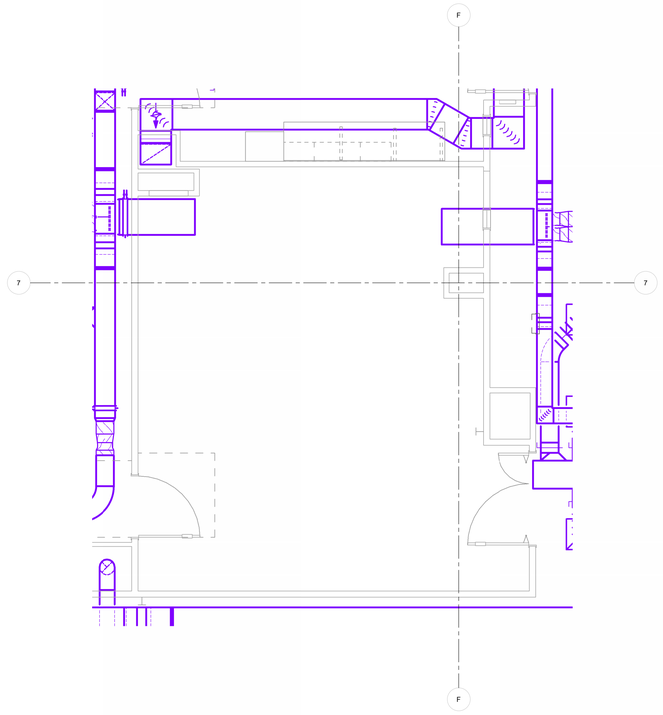
SHEET NO.
M2.11

VBFA
181 East 5600 South
Murray, Utah 84107
O: (801)530-3148
www.vbfa.com
VBFA Project #: 240108

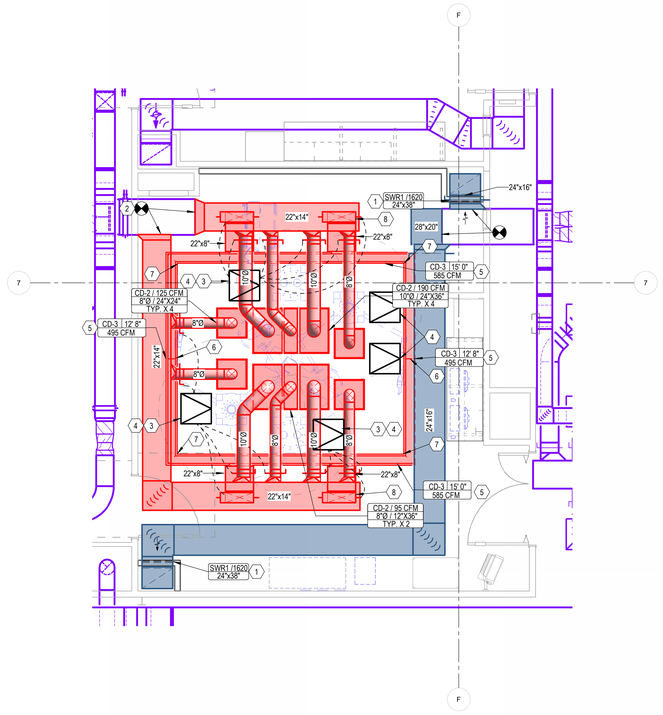
PLOT DATE:
8/15/2024 4:23:59 PM TEMPLATE VERSION: 3.6.8.20241012

KEYNOTES

1. WALL MOUNTED STAINLESS STEEL RETURN GRILLE. MOUNT AT 12" AFF.
2. CONNECT TO EXISTING DUCT AT APPROXIMATELY THIS POINT. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
3. PROVIDE MANUAL VOLUME DAMPERS WITH ELECTRONIC TYPE REMOTE CABLE OPERATORS TERMINATED AT A CENTRAL LOCATION.
4. PROVIDE CEILING ACCESS PANEL. COORDINATE EXACT LOCATION WITH ARCHITECTURAL PLANS.
5. OPERATING ROOM SLOT DIFFUSER LENGTH MEASURED TO INSIDE CORNER OF DIFFUSER ARRAY.
6. INSTALL PLENUM DIVIDER TO PROVIDE EQUAL LENGTHS OF AIR CURTAIN SUPPLIED FROM EACH SIDE.
7. CORNERS OF AIR CURTAIN DIFFUSERS SHALL BE CONTINOUS PLENUM.
8. DROP OFF DUCT MAIN WITH HIGH EFFICIENCY TAKE OFF AND ELBOW INTO LINEAR DIFFUSER PLENUM. BALANCE TO CFM SHOWN.



1 OR HVAC DEMOLITION PLAN
1/4" = 1'-0"



2 OR HVAC PLAN
1/4" = 1'-0"

HKS

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HKS ARCHITECTS, INC.
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ELECTRICAL ENGINEER
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LICENSED PROFESSIONAL ENGINEER
No. 178893
DONALD K. BRADSHAW
STATE OF UTH

08/15/2024

LAYTON HOSPITAL MISC PROJECTS

KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26404.000
DATE
08/15/2024
ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
OR HVAC PLANS

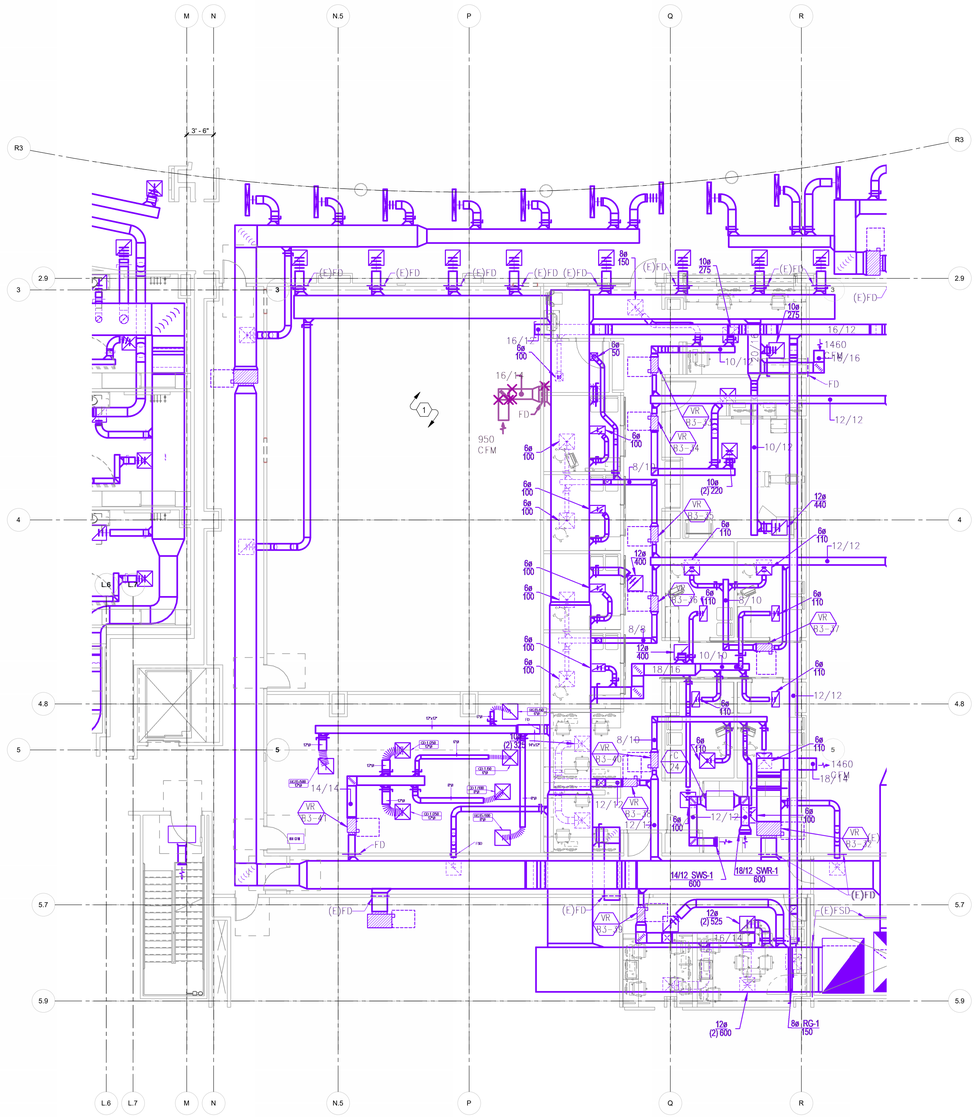
SHEET NO.
M2.13

VBFA
181 East 5600 South
Murray, Utah 84107
O: (801)530-3146
www.vbfa.com
VBFA Project #: 240108

PLOT DATE:
8/15/2024 4:18:04 PM TEMPLATE VERSION: 2.6.8.20141013

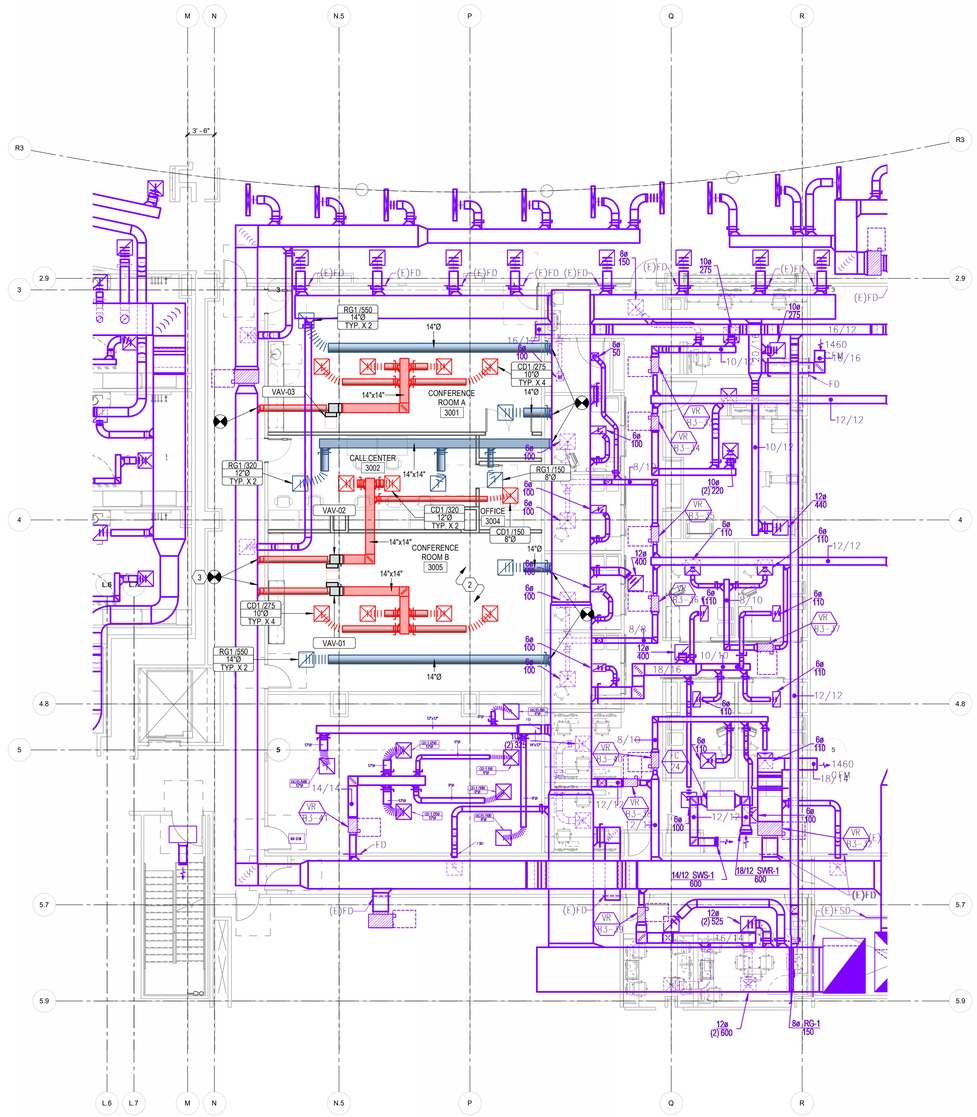
KEYNOTES

1. EXISTING SHOWN LIGHT TO REMAIN. ITEMS CROSSED OUT TO BE REMOVED. CAP ALL UNUSED DUCTWORK. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
2. EXISTING SHOWN LIGHT TO REMAIN. NEW WORK SHOWN DARK. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
3. CONNECT TO EXISTING DUCT AT APPROXIMATELY THIS POINT. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.



1 LEVEL 3 LDR HVAC DEMOLITION PLAN

1/8" = 1'-0"



2 LEVEL 3 LDR HVAC PLAN

1/8" = 1'-0"

ARCHITECT
HKS ARCHITECTS, INC.
222 SOUTH MAIN, SUITE 230
SALT LAKE CITY, UT 84101

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No. 178893
DONALD K. BRADSHAW
STATE OF UTH

08/15/2024

LAYTON HOSPITAL MISC PROJECTS

KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26404.000
DATE
08/15/2024
ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
CONFERENCE ROOM HVAC PLAN

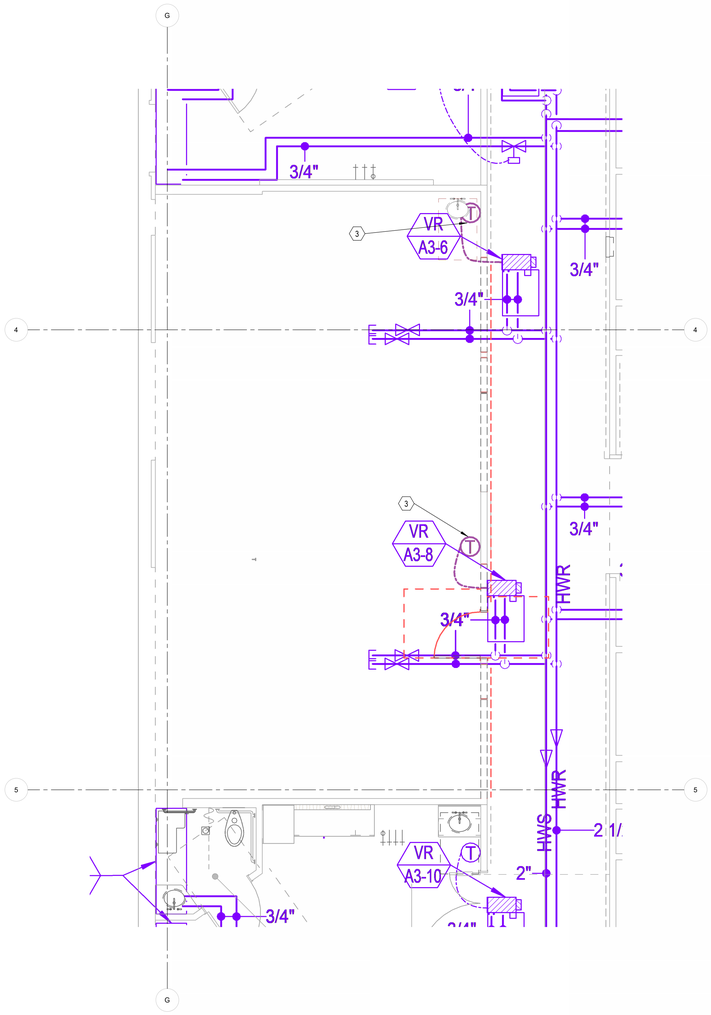
SHEET NO.
M2.14

VBFA
181 East 5600 South
Murray, Utah 84107
O: (801)530-3148
www.vbfa.com
VBFA Project #: 240108

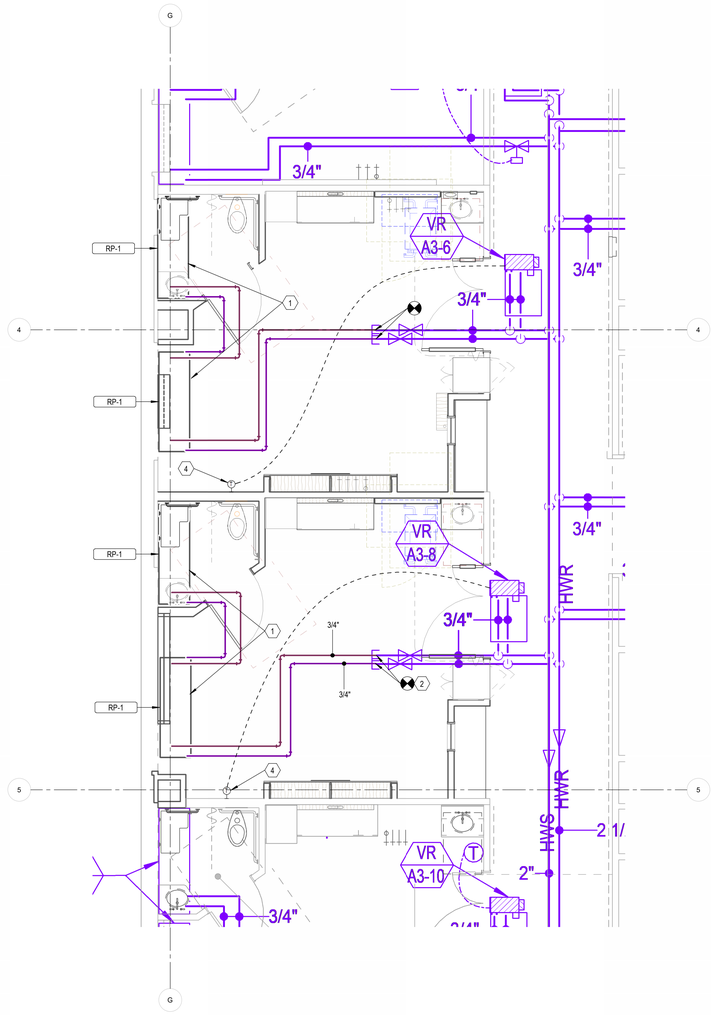
PLOT DATE: 8/15/2024 4:18:09 PM TEMPLATE VERSION: 2.6.8.20141012

KEYNOTES

1. NEW RADIANT PANEL. MATCH CONFIGURATION OF EXISTING ADJACENT ROOMS. BALANCE TO .5 GPM.
2. CONNECT TO EXISTING PIPING AT APPROXIMATELY THIS POINT. FIELD VERIFY. TYPICAL.
3. REMOVE EXISTING THERMOSAT.
4. NEW THERMOSTAT. COORDINATE EXACT PLACEMENT WITH ARCHITECTURAL ELEVATIONS.



1 LEVEL 3 LDR MECHANICAL PIPING DEMOLITION PLAN
1/4" = 1'-0"



2 LEVEL 3 LDR MECHANICAL PIPING REMODEL PLAN
1/4" = 1'-0"

HKS

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LICENSED PROFESSIONAL ENGINEER
No. 178893
DONALD K. BRADSHAW
STATE OF UTH

08/15/2024

LAYTON HOSPITAL MISC PROJECTS

KEY PLAN

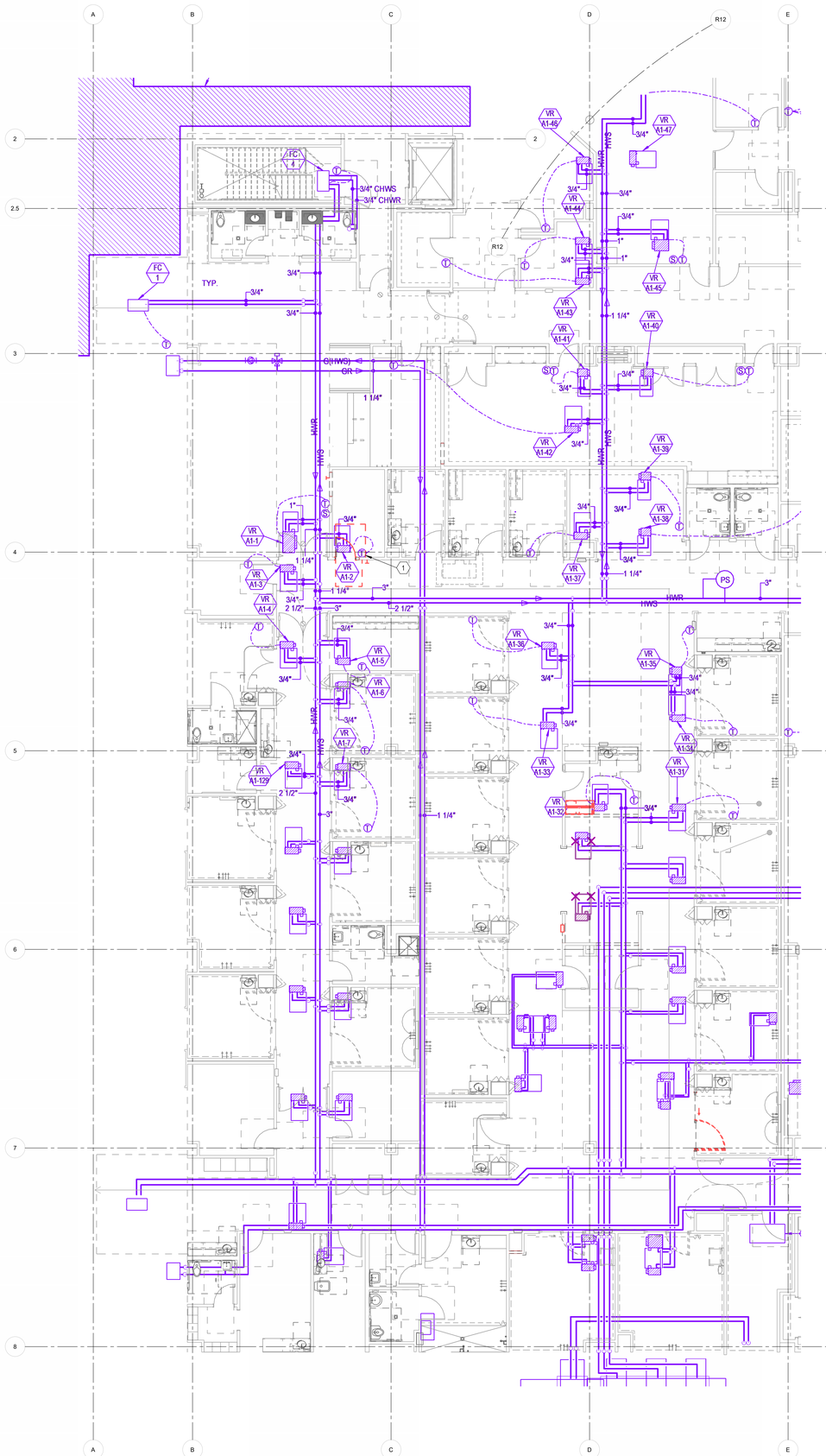
REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26404.000
DATE
08/15/2024
ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
LDR MECHANICAL PIPING PLANS

SHEET NO.
MP2.01

VBFA
181 East 5600 South
Murray, Utah 84107
O: (801)530-3148
www.vbfa.com
VBFA Project #: 240108

PLOT DATE: 8/15/2024 4:18:12 PM TEMPLATE VERSION: 2.6.8.20144012



1 **ED MECHANICAL PIPING DEMOLITION PLAN**
1/8" = 1'-0"

2 **ED MECHANICAL PIPING REMODEL PLAN**
1/8" = 1'-0"

KEYNOTES

1. PRESERVE EXISTING THERMOSTAT DURING CONSTRUCTION.
2. FLIP VAV ACCESS TO OPPOSITE SIDE.EXTEND PIPING AS NECESSARY.
3. SHIFT VAV BOX TO MISS NEW WALL.EXTEND PIPING AS NECESSARY. FIELD VERIFY EXISTING CONDITIONS.

HKS

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LICENSED PROFESSIONAL ENGINEER
No. 178893
DONALD K. BRADSHAW
STATE OF UTH

08/15/2024

LAYTON HOSPITAL MISC PROJECTS

KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26404.000
DATE
08/15/2024
ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
ED MECHANICAL PIPING PLANS

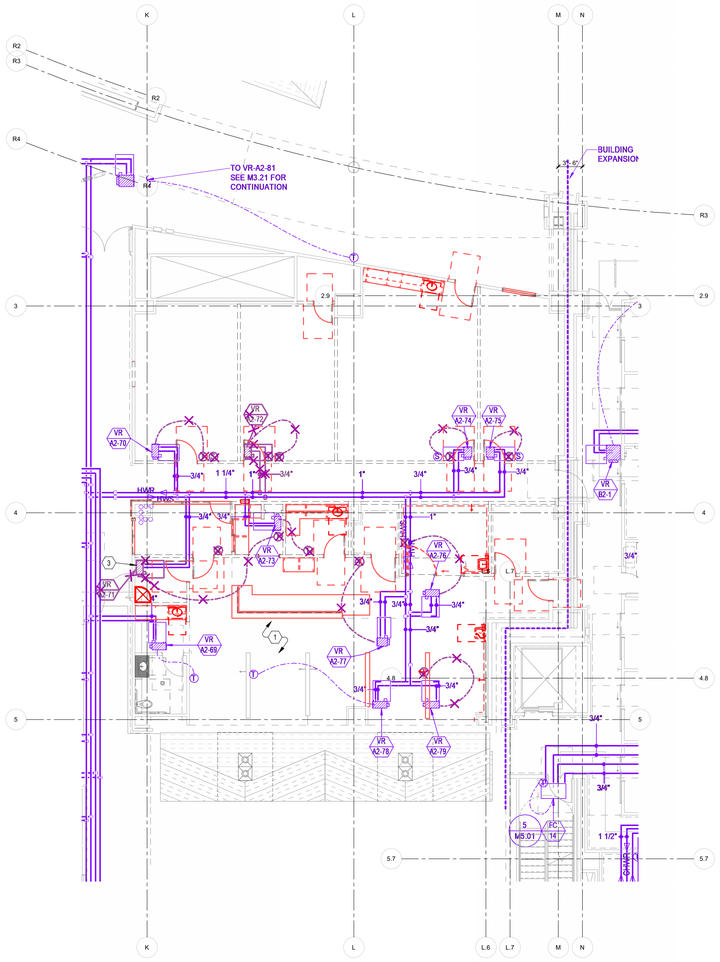
SHEET NO.
MP2.03

VBFA
181 East 5600 South
Murray, Utah 84107
O: (801)530-3148
www.vbfa.com
VBFA Project #: 240108

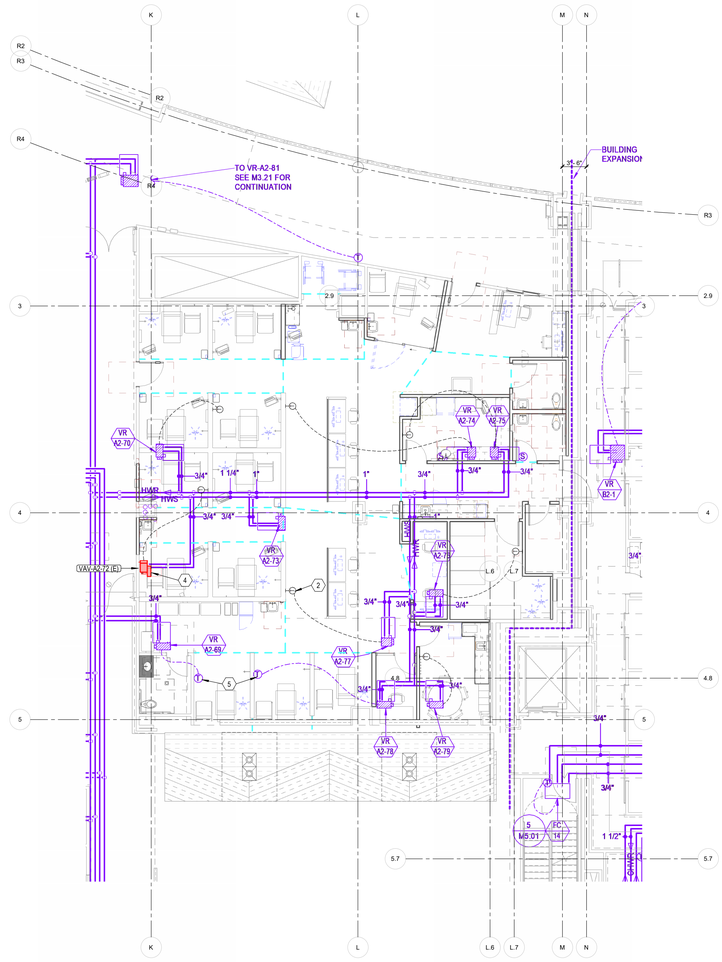
PLOT DATE: 8/15/2024 4:18:10 PM TEMPLATE VERSION: 2.6.8.20141012

KEYNOTES

1. EXISTING SHOWN LIGHT TO REMAIN. ITEMS CROSSED OUT TO BE REMOVED. CAP ALL UNUSED PIPING. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
2. NEW THERMOSTAT. TIE TO EXISTING VAV BOX CONTROLS. COORDINATE EXACT PLACEMENT OF THERMOSTAT WITH ARCHITECTURAL ELEVATIONS. TYPICAL.
3. REMOVE EXISTING VAV BOX. PIPING TO REMAIN.
4. REINSTALL SALVAGED VAV BOX IN THIS LOCATION. CONNECT TO EXISTING HEATING WATER PIPING.
5. EXISTING THERMOSTAT TO REMAIN.



1 **INFUSION MECHANICAL PIPING DEMOLITION PLAN**
1/8" = 1'-0"



2 **INFUSION MECHANICAL PIPING REMODEL PLAN**
1/8" = 1'-0"

HKS

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222 SOUTH MAIN, SUITE 230
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SPECTRUM ENGINEERS, INC
324 SOUTH STATE STREET, SUITE 400
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LICENSED PROFESSIONAL ENGINEER
No. 178893
DONALD K. BRADSHAW
STATE OF UTAH

08/15/2024

LAYTON HOSPITAL MISC PROJECTS

KEY PLAN

REVISION
NO. DESCRIPTION DATE

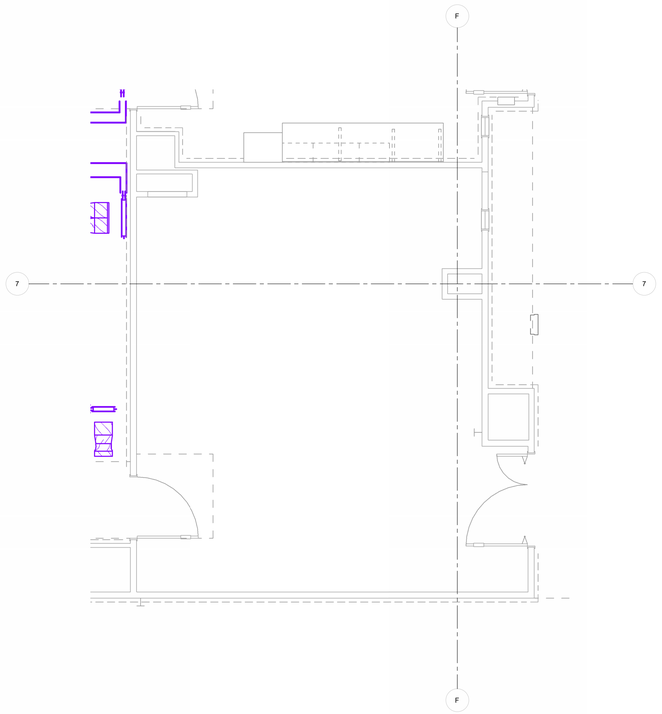
HKS PROJECT NUMBER
26404.000
DATE
08/15/2024
ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
INFUSION MECHANICAL PIPING PLANS
SHEET NO.
MP2.11

VBFA
181 East 5600 South
Murray, Utah 84107
O: (801)530-3148
www.vbfa.com
VBFA Project #: 240108

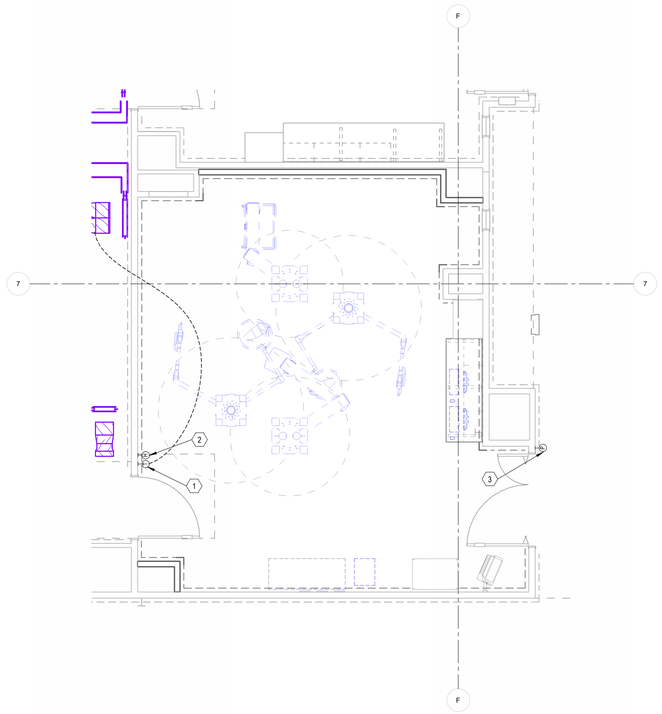
PLOT DATE:
8/15/2024 4:43:03 PM
TEMPLATE VERSION: 3.6.8.20241012

KEYNOTES

1 NEW THERMOSTAT. COORDINATE EXACT PLACEMENT WITH ARCHITECTURAL ELEVATIONS.
2 NEW HUMIDISTAT. COORDINATE EXACT PLACEMENT WITH ARCHITECTURAL ELEVATIONS.
3 NEW THRU WALL PRESSURE MONITOR. ROOM SHALL BE BALANCED TO MAINTAIN POSITIVE PRESSURIZATION. COORDINATE EXACT PLACEMENT WITH ARCHITECTURAL ELEVATIONS.



1 OR MECHANICAL PIPING DEMOLITION PLAN
1/4" = 1'-0"



2 OR MECHANICAL PIPING PIPING PLAN
1/4" = 1'-0"

HKS

ARCHITECT
HKS ARCHITECTS, INC.
222 SOUTH MAIN, SUITE 230
SALT LAKE CITY, UT 84101

STRUCTURAL ENGINEER
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MECHANICAL ENGINEER
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ELECTRICAL ENGINEER
SPECTRUM ENGINEERS, INC
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LICENSED PROFESSIONAL ENGINEER
No. 178893
DONALD K. BRADSHAW
STATE OF UTH

08/15/2024

LAYTON HOSPITAL MISC PROJECTS

KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26404.000
DATE
08/15/2024
ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
OR MECHANICAL PIPING PLANS

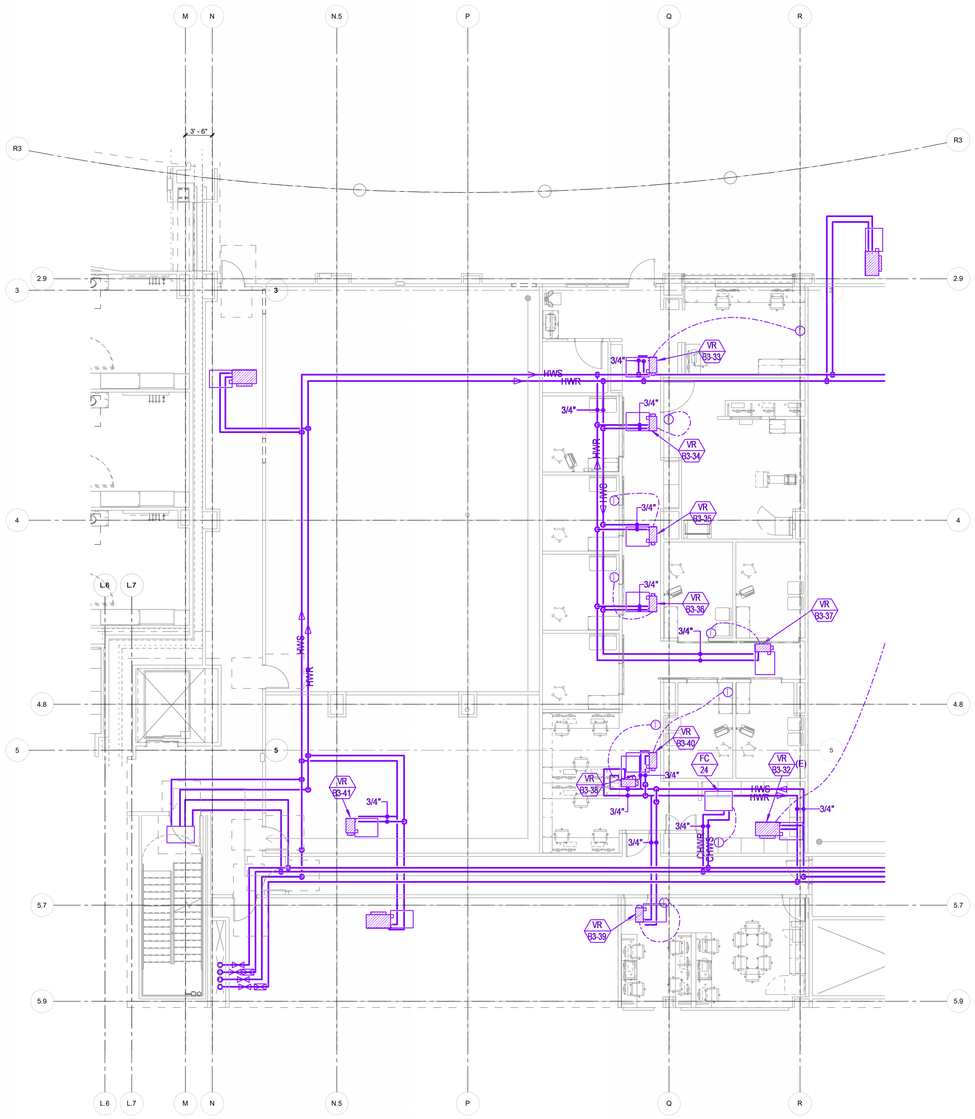
SHEET NO.
MP2.13

VBFA
181 East 5600 South
Murray, Utah 84107
O: (801)530-3148
www.vbfa.com
VBFA Project #: 240108

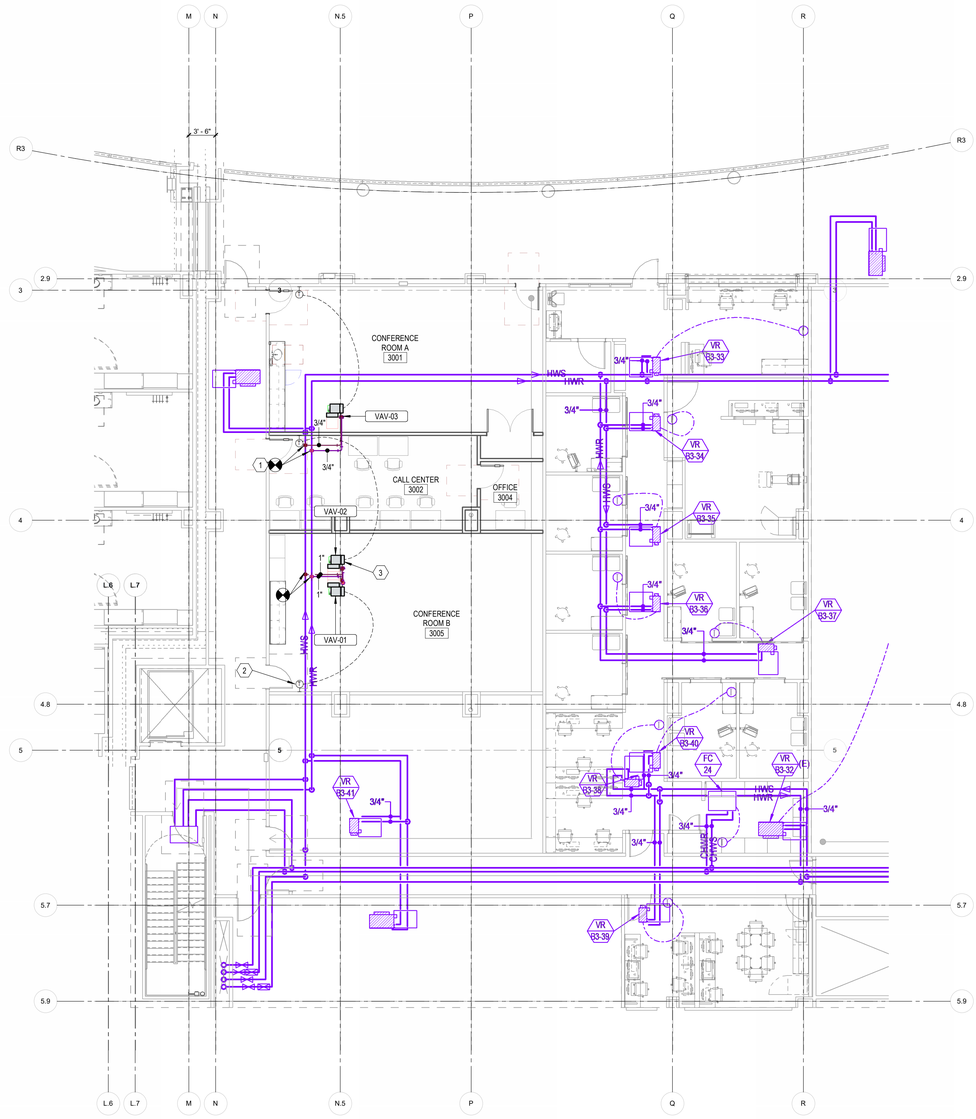
PLOT DATE: 8/15/2024 4:18:22 PM TEMPLATE VERSION: 2.8.8.20141012

KEYNOTES

1. CONNECT TO EXISTING PIPING AT APPROXIMATELY THIS POINT. FIELD VERIFY. TYPICAL.
2. NEW THERMOSTAT. COORDINATE EXACT PLACEMENT WITH ARCHITECTURAL ELEVATIONS. TYPICAL.
3. NEW VAV BOX. SEE MECHANICAL SCHEDULES AND MECHANICAL DETAILS FOR PIPING. TYPICAL.



1 LEVEL 3 LDR MECHANICAL PIPING DEMOLITION PLAN
1/8" = 1'-0"



2 LEVEL 3 LDR MECHANICAL PIPING REMODEL PLAN
1/8" = 1'-0"

PLOT DATE:
8/15/2024 4:18:26 PM TEMPLATE VERSION: 2.9.8.20141012

HKS

ARCHITECT
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222 SOUTH MAIN, SUITE 230
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MECHANICAL ENGINEER
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ELECTRICAL ENGINEER
SPECTRUM ENGINEERS, INC
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SALT LAKE CITY, UTAH 84111

LICENSED PROFESSIONAL ENGINEER
No. 178893
DONALD K. BRADSHAW
STATE OF UTH

08/15/2024

LAYTON HOSPITAL MISC PROJECTS

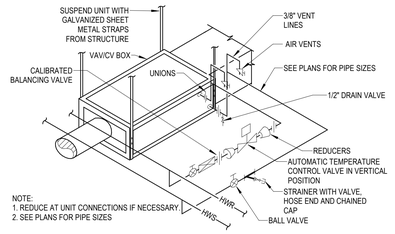
KEY PLAN

REVISION
NO. DESCRIPTION DATE

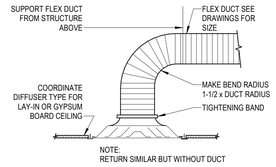
HKS PROJECT NUMBER
26404.000
DATE
08/15/2024
ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
CONFERENCE ROOM MECHANICAL PIPING PLAN

MP2.14

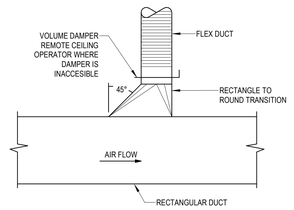
VBFA
181 East 5600 South
Murray, Utah 84107
O: (801)530-3148
www.vbfa.com
VBFA Project #: 240108



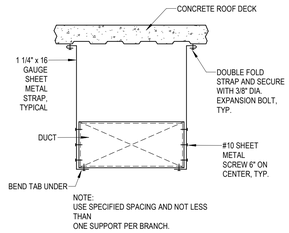
6 M501 VAV/CV TERMINAL UNIT WITH 2-WAY CONTROL VALVE DETAIL
NOT TO SCALE



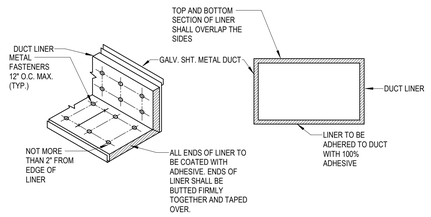
1 M501 DIFFUSER CONNECTION DETAIL
NOT TO SCALE



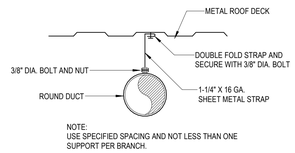
2 M501 FLEX DUCT WITH HIGH EFFICIENCY FITTING DETAIL
NOT TO SCALE



3 M501 RECTANGULAR DUCT DETAIL
NOT TO SCALE



4 M501 RECTANGULAR DUCT LINER DETAIL
NOT TO SCALE



5 M501 ROUND DUCT SUPPORT DETAIL
NOT TO SCALE

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DONALD K. BRADSHAW
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08/15/2024

LAYTON HOSPITAL MISC PROJECTS

KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26404.000
DATE
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ISSUE
CONSTRUCTION DOCUMENTS
SHEET TITLE
MECHANICAL DETAILS

SHEET NO.
M501

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GRILLES, REGISTERS AND DIFFUSERS

ID	MANUFACTURER	MODEL	DESCRIPTION	
CD1	EH PRICE	SPD	FACE STYLE: SQUARE PLAQUE DIFFUSER FACE SIZE: 24" x 24", 24" x 12" OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE APPLICATION: ENGINEERED VAV SYSTEMS MATERIAL: STEEL FINISH: B12 WHITE POWDERCOAT	MOUNTING-FRAME: SURFACE OR LAY-IN, (C/W CEILING TYPE.) PATTERN: 360° RADIAL HORIZONTAL AIR PATTERN MAX NC - 25 DAMPER: NONE REMOVABLE FACE
CD2	EH PRICE	LFD	STAINLESS STEEL LAMINAR FLOW DIFFUSER FOR OPERATING ROOM APPLICATION. THE PERFORATED FACE PLATE, DAMPER DEFLECTOR, INTERIOR BAFFLES, AND DIFFUSER BACK PAN PLENUM SHALL BE STAINLESS STEEL WITH CONTINUOUSLY WELDED JOINTS. DIFFUSER FACE TO BE... WITH QUICK RELEASE FASTENERS FOR EASY REMOVAL OF FACE FOR CLEANING.	MOUNTING-FRAME: SURFACE PATTERN: LAMINAR FLOW MAX NC - 25
CD3	EH PRICE	HORD	MODULAR SLOT SUPPLY DIFFUSER FOR OPERATING ROOM APPLICATION. STAINLESS STEEL CONSTRUCTION WITH TWO SLOTS AND FIXED PATTERN DEFLECTORS. PLENUM SHALL HAVE STAINLESS STEEL INLET COLLAR AND DAMPER. DAMPER SHALL BE OPPOSED BLADE TYPE WITH STAINLESS STEEL CONSTRUCTION. DIFFUSER FACE TO BE ATTACHED WITH QUICK RELEASE FASTENERS AND SAFETY CABLE TO ALLOW FOR CLEANING.	MOUNTING-FRAME: SURFACE MAX NC - 25
RG1	EH PRICE	PDDR	FACE STYLE: PERFORATED RETURN AIR UNIT FACE SIZE: 24" x 24", 24" x 12" OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. APPLICATION: AIR RETURN MATERIAL: STEEL FINISH: B12 WHITE POWDERCOAT	MOUNTING-FRAME: SURFACE OR LAY-IN, (C/W CEILING TYPE.) DAMPER: NONE MAX NC - 25 REMOVABLE FACE & CORE
EG1	EH PRICE	80	FACE STYLE: CRATE RETURN AIR UNIT FACE SIZE: 24" x 24", 24" x 12" OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE APPLICATION: PRESSURIZED AIR RETURN MATERIAL: ALUMINUM FINISH: B12 WHITE POWDERCOAT	MOUNTING-FRAME: SURFACE OR LAY-IN, (C/W CEILING TYPE.) DAMPER: OPPOSED BLADE MAX NC - 25 REMOVABLE FACE & CORE
SWR1	EH PRICE	730H	STAINLESS STEEL SIDE WALL RETURN REGISTER. HORIZONTAL DEFLECTION FIXED BLADES MOUNTED AT 45 DEGREE ANGLE AND SPACED AT 3/4" O.C. COMPLETE WITH O.B.D. ADJUSTABLE THROUGH FACE. COMPLETE WITH... RELEASE FASTENERS FOR EASY REMOVAL AND CLEANING. FRONT BLADES PARALLEL TO SHORT DIMENSION. MATERIAL: STEEL	MOUNTING: SURFACE PATTERN: PERMANENT 45 DEGREE DEFLECTION DAMPER: OPPOSED BLADE MAX NC - 30 REMOVABLE FACE & CORE

RADIANT CEILING PANEL SCHEDULE (HOT WATER)

				FLUID				PHYSICAL				
ID	MANUFACTURER AND MODEL NUMBER	LOCATION	HEATING CAPACITY (BTUH/FT)	FLOW RATE (GPM)	ENTERING/ LEAVING TEMP. (DEG. F)	MEAN FLUID TEMP (DEG. F)	WORKING FLUID	PANEL WIDTH (IN)	FACE FINISH TYPE	# OF TUBES	EFFECTIVE LENGTH (IN)	NOTES
RP-1	PRICE RPL	SEE PLANS	197	(3)	130/110	120	WATER	24	SMOOTH	8	(3)	(1)(2)

(1) PROVIDE MOUNTING SYSTEM AND HARDWARE WITH END TRIM, CENTER TRIM, AND CORNER TRIM AS REQUIRED.
(2) HEADERS SHALL CONTAIN ALL SUPPLY, RETURN, AND AIR VENT CONNECTIONS AS REQUIRED. SUBMIT COLOR CHART TO ARCHITECT FOR SELECTION.
(3) SEE PLANS
(4) ALL CAPACITIES BASED ON 70 DEG-F ROOM TEMPERATURE AND 120 DEG-F AVERAGE FLUID TEMPERATURE.

VAV BOX SCHEDULE

			AIR							FLUID (2)					COIL			
ID	MANUFACTURER AND MODEL NUMBER	INLET SIZE (IN)	COOLING MAXIMUM AIR (5) (CFM)	HEATING MAXIMUM AIR (CFM)	MINIMUM AIR (3) (CFM)	ENTERING AIR TEMP. DB (DEG. F)	LEAVING AIR TEMP. DB (DEG. F)	S.P. LOSS AT MAX CFM (4) (IN H20)	NC AT 1" H2O (1) S.P.	HEAT LOAD (MB)	TOTAL FLUID FLOW (GPM)	ENT. FLUID TEMP (DEG. F)	WORKING FLUID	MAX. FLUID PRESSURE DROP (FT)	MIN. COIL ROWS	PIPE SIZE (IN)	BALANCING VALVE SIZE (IN)	REMARKS
VAV-01	TITUS-ESV-3	10	1100	660	230	55	95	0.65	26	27..3	2	130	H. WATER	1	2	3/4	3/4	1,2,3,4,5,6
VAV-02	TITUS-ESV-3	10	1100	660	230	55	95	0.65	26	27..3	2	130	H. WATER	1	2	3/4	3/4	1,2,3,4,5,6
VAV-03	TITUS-ESV-3	10	1100	660	230	55	95	0.65	26	27..3	2	130	H. WATER	1	2	3/4	3/4	1,2,3,4,5,6

1. MAXIMUM DISCHARGE NC AT BOX DIFFENTIAL PRESSURE BASED ON ARI STANDARD 880-89
2. COIL HEATING CAPACITY BASED ON HEATING MAXIMUM AIR FLOW (60% OF MAXIMUM COOLING CFM).
3. MINIMUM CFM IS LOWEST CONTROLLABLE CFM SETTING (BASED ON 400 FPM INLET VELOCITY).
4. MAXIMUM STATIC PRSSURE DROP PERMISSABLE ACROSS BOX AND COIL AT MAXIMUM COOLING CFM.
5. BOX COOLING MAXIMUM IS THE SUM OF DIFFUSERS CFM VALUES AS SHOWN IN THE DRAWINGS. BOX MINIMUM CFM TO BE SET AT 30% OF THIS MAXIMUM. BOX HEATING CFM TO BE SET AT 60% OF THIS SAME MAXIMUM. TYPICAL UNLESS OTHERWISE NOTED.
6. PRESSURE INDEPENDENT TYPE BOX.

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